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THE DEFENDER CUP.

The accompanying illustration shows the cup which, as indicated by its inscription, was "Presented by the New York Yacht Club to the owners of the Defender, in recognition of their successful defense of the America's cup in September, 1895."

The Defender cup was made by Black, Starr & Frost, of New York. With all its decoration it is still a cup, as will be seen by the reproduction herewith, and not removed from the possibility of practical use. It is, with the 6-inch base, 24-inches in height, and weighs 225 ounces. The design, which is appropriately suggestive of the yacht's name, and has been executed with much beauty and vigor, represents a mermaid, or maiden of the sea, swimming around the body of the cup, closely pursued by a denizen of the deep, whose course is arrested by a rival candidate for the maiden's favor. The artist has chosen the moment when the defending and pursuing figures, with hair and beard blowing in the wind behind them, have come in conflict. The water is lashed to foam by the desperate struggle, and while the whole is modeled with strong movement and indication of life, it is free from a suspicion of being overwrought in detail at the expense of the desired effect. The reverse side bears the presentation inscription and the seal of the yacht club. The handles are a graceful combination of capscrolls, shells and seaweed. Conventional seaweed surrounds the feet, and the base is circles by festoons of delicately wrought laurel leaves. The whole design marks a distinct step forward in the matter of American industrial art.

LIGHTHOUSE WORK ON LAKE ERIE.

Col. Jared A. Smith, U. S. A., is completing plans for the range lights at the "turnout" in Maumee Bay, and will proceed with their construction this summer. His plan makes use of three lights for two ranges, and the designs are rather unique. The "turnout" range system consists of a tall tower supporting a light, with a passage through this tower which is on a level with and affords a practically unobstructed view of the taller of the two lower lights. The tallest tower is in the middle, and on the side next Toledo is the shortest tower, its lantern being slightly below the opening in middle structure. The light in the tallest tower shines lakeward only; that in the shortest tower shines toward the river only, and the outer light shines all around the horizon. It will easily be seen, therefore that the two lower lights form a range for vessels between the "turnout" and the port of Toledo. While the taller of these two, with the highest light, form the range to lakeward.

It might be considered that if the tallest light were allowed to shine in both directions, the two lights would be sufficient for both ranges; and while experienced pilots understand the idea fully, it is not out of place here to call attention to the fact that the invariable custom is to place the higher light to the rear. The necessity of this is obvious in many cases, and there is need for uniformity, as at a distance the difference in height of the lights is all that is discernable. Consequently were the higher light placed forward in exceptional cases, the tendency on the part of the wheelmen, when the ship got off the ranges, would be to give the while a turn which would result in getting the boat aground.

On account of the small height of the lowest of these lights, Col. Smith has been at some pains to design a keeper's dwelling which should be comfortable in all points and yet not high enough to obstruct the view of the lights. He has completed plans for one and one-half story dwelling with a kitchen and three bedrooms, all of

which connect with the central room, or parlor, by wide folding doors, so that a large heating stove will keep all these rooms warm if desired. Any or all the bedrooms may be used as living rooms if desired. Plenty of pantry room is provided, as well as a cellar, and the upper half story will be finished off as an attic. The house is cosy and of a pleasing exterior appearance. This whole structure is on a foundation of piling, filled with stone and secured on the outside with heavy riprap stone. The iron structures of the lights will be firmly fastened to plates, which in turn are bolted to the caps of the piling, giving to the whole structure the strongest possible construction.

The two lights placed in service in Sandusky Bay this spring are two of the best structures of the sort in the country, and the keeper's dwelling, on one of the cribs, is to be equaled probably nowhere in the world, where the same conditions rule. This dwelling, with its large cellar, and its opening for boat landing, was fully described in the RECORD about a year ago. The House has just appropriated \$30,000 additional for two



THE DEFENDER CUP.

lights to form a range inside which will guide vessels up to the wharves. These four lights supplant an old system of five lights, which will be dispensed with.

The office force is now engaged on the proposed light to be constructed on South Bass, or Put-in-Bay Island. Realizing the pressing need for this light Col. Smith has decided to push this work to the contract stage as soon as possible.

JAMES MIALl KNIGHT.

Capt. James Miall Knight died at Collingwood, Ont., Sunday, April 18, at the advanced age of 91 years. He was born in England, went to sea when a youth, and soon worked his way to the master's berth. He commanded a number of ships, and was at one time master of Her Majesty's private yacht. He has lived in Collingwood for 20 years past, and his wife, three daughters and two sons survive him.

NEWS AROUND THE LAKES.

BUFFALO.

THE WORK OF DREDGING THE CREEK BEGUN—AN UNUSUAL APPROPRIATION—PACKAGE FREIGHT LINES NOT IN STRICT HARMONY.

Special Correspondence to The Marine Record.

BUFFALO, April 28.

This is still something of a refrigerator, considered as a lake port, but the weather has come off warm and will roast the the ice out of the mouth of the harbor in a few days. Had it not been for the warm week during the early part of the month it is doubtful if Buffalo would have been an open port this month at all.

As it is, business is not prepared to make the most of the opening. Coal shippers are doing next to nothing, and there is such a slack feeling in lumber that receipts will not be what they should be for some time. In fact, there is not a full season anywhere except in grain and package freight. So far as appears there is to be a big season in package freight all round. The steamer State of Ohio came down through the ice for the first time on Sunday, but was obliged to return to Cleveland without cleaning up the freight waiting for her. So with the Blanchard, of the Clover-leaf line to Toledo. Both lines would be very glad of the second boat now. The F. & P. M. No. 5, which is to run in the latter line, will come down with a load from Milwaukee in time to be turned over on May 1.

I make haste to announce to every sad vessel man whose boats have been dragging on the bottom, and it is to be feared, to a number of owners who took their boats somewhere else, that the dredges began work in the creek Monday morning and that they are to keep at work till the harbor has 20 feet of water. There was one hitch after another in the city council before the assessment roll was confirmed, till it looked as though the usual wait for midsummer was on the program. The dredging people have gone half way at least in the matter of getting the work done, for they have not waited for the contracts to be signed. The city has of late years expended less than \$10,000 on its dredging, but the contracts now amount to \$82,000, so the prospect is that instead of apologizing for mud in the harbor instead of water we shall soon be pointing with pride to the unsounded depths of Buffalo Creek and inviting other ports to follow suit.

The package freight lines are not in the most satisfactory shape in regard to to the season's combination. It is delay all along the line of proceeding. There is no allotment agreed upon yet, and the disputes of last season are not all off. Now come a few ultimatums from some of the managers to be digested this week and then something else. The end is not in sight.

Lumber shippers have taken a fall out of the insurance agents in the shape of a policy that at last covers deck loads as it always should have done. The policy agrees to insure deck loads wherever the vessel is waterlogged, up to within 5 per cent. of the valuation, but there is no provision for lumber lost overboard. The new policy is, therefore, a compromise, and is not what the dealers set out for, but is an improvement over anything obtained before.

Henry C. French has bought the five steamers of the Union Transit line, the Fisk, Stevens, Nicol, Ward and Moran. This deal has been in the air for some weeks, but the negotiations were not carried to an actual contract till Monday. The purchase makes permanent this already strong line, which has owned from its organization the steamers Portage and Avon. The eastern connections are with the Lehigh, Lackawanna and Erie roads, thus giving the line ample outlet in that direction.

These five steamers have had an eventful history. They were once the better part of Ward's Detroit & Lake Superior line, but soon after the Stevens, Moran and Nicol were built the company was reorganized into the Crescent line of Detroit. Last spring they were taken by Mr. French and others on a three-year lease and the new line was called the Union Transit. It has steadily gained favor and importance in the lake traffic and is now a leading factor in the Lake Superior trade.

W. J. Conners has sold his interest in the line to Mr. French, so that as John Gordon still retains his quarter

interest, Mr. French is owner of three quarters of the line. He has been the general manager of it since it was first organized. The seven steamers are valued at about \$250,000.

It is the old story of locking the stable after the horse is stolen. The harbor tug offices have nothing for a lookout but a peep hold on the door of the four story building used as their headquarters. Last week Louis F. Lautenslager, of Hand & Johnson's line, fell from the ladder that led to the roof and landed on his head and hands on the floor below. He escaped with a broken bone of the nose and two badly sprained wrists, and will be laid up awhile. It was the merest chance that he was not killed outright, especially as he is a heavy man and the distance was considerable. The ladder has now been replaced by a flight of stairs.

"How about getting the North Land out in time for her regular season," was the question I put to Capt. Wesley Brown, marine superintendent of the Northern Line, this morning. "You bet we are going to do it," he replied. There was an air of determination in the speech that indicates that the task is not going to be such a very easy one.

The Northern Light is a pretty good proof that lightning can strike twice in one place when it undertakes. She is not badly burned, but her flour is mostly too smoky on the outside for marketing. Only about half of the 134 car loads are fit to be shipped out without re-packing. The loss will reach \$10,000 according to present calculations. The flour is not much burned, but it shows that smoke is very penetrating stuff.

Such a casting about as there is among the conviviais who are in the habit of going down the river on Sunday for a lark with beer in it. The Raines excise law has taken the wind out of such trips to a marked extent. The resorts on Grand Island have made a break to convert themselves into hotels, but it is a question how the boats are to come out. Last Sunday the resorts in the boathouse district below Ferry street dock defied the law and are now waiting to see what is going to be done about it. Buffalo gets away with a large amount of beer, but is not troubled with the genus bumboat, except in the outing scow form.

The Spencer has considerable wet corn in her winter cargo from Chicago, but the amount is not yet known. The Wolf, after being on the bottom a day or two, was dragged to the elevator this morning. The steamer Mecosta broke a steam pipe and also has considerable wet corn. The McWilliams broke a seacock and will have between 10,000 and 15,000 bushels of wet corn.

Somebody has been directing attention to the Cleveland canal boat line as a real competitor to Buffalo in the way of handling of grain. A remark to this effect was lately made to a vessel owner here. "Just wait," said he, "till that fleet of boats gets caught out in a storm on the lake. The insurance agents are looking out for that very chance to withdraw their risks on the boats. Where will the competition go to then?" All of which is on the supposition that the steel boats are not calculated to stand a good lively storm on Lake Erie.

There have been more vessel men here from other ports, especially Cleveland, within a week, than for a long time before. They come with the apparent intention of thawing out the 80 miles of ice that hemmed in the harbor and driving out the mud that proved a still harder stuff to navigate, but they are going home again convinced that no sort of encouragement short of a dredge and some good weather will help the Buffalo tugs out.

JOHN CHAMBERLIN.

DULUTH AND SUPERIOR.

THE FIRST BOAT ARRIVED LAST THURSDAY EVENING—
VALUABLE FIND OF ORE AT THE MINNESOTA MINE—
LIVELY SALES IN LUMBER.

Special Correspondence to The Marine Record.

DULUTH, MINN., April 28.

The Mahoning, the first boat to arrive from the lower lakes came in on Thursday last at 5:40 p. m. Contrary to all precedent, perfect quiet prevailed while she was coming in the entry. Not a whistle was blown to greet her, and the reception was very tame. No one seems to understand why it was, and the only reason given is that the boys on the craft in the harbor must have been asleep.

A great fleet of vessels are expected to arrive within the next few days light for grain. There will be more grain shipped, it is said, from Duluth, than for any similar period in the history of the port.

Capt. C. H. Weeks, formerly of Bay City, Mich., has opened a vessel agency and insurance office in the Board of Trade building in Duluth. He will make a speciality of lumber and grain.

A recent find of ore at the Minnosota mine proves to be one of the most valuable yet discovered, and places this mine in the first rank in the Lake Superior region. On the Butte shaft, in the fourth level, a vein of No. 1 Bessemer ninety feet wide, estimated to contain over 1,000,000 tons, has been uncovered.

Shipments to the new ore docks at Two Harbors began last week, and trains are now running night and day.

The daily press at the different lake ports have been industriously at work picking out all sorts of imaginary runs for the big passenger whale-back, the Christopher Columbus. The MARINE RECORD correspondent had the

pleasure of a short talk on this subject, with Captain McDougall, the gist of one of his characteristic replies being:

"Well, you newspaper men don't seem to have very good luck running the Christopher; so if you'll allow me, I'll run her myself. You can say she will go on her old run, between Milwaukee and Chicago, and she'll start there pretty soon, too."

The American Steel Barge company expect to launch another steamer a week from next Saturday.

Wheat in store at the head of the lakes is apportioned among the various terminal elevator lines as follows: Belt Line, 1,296,163; Consolidated, 5,370,759; Globe, 4,354,707; Great Northern, 1,707,288; Superior terminal, 1,491,000; Consolidated B, 369,720; Consolidated H, 96,315; total, 14,686,042; in store at Minneapolis, 18,752,789.

The managers of the various coal companies at the head of the lakes have measured the soft coal piles on the various docks. They found that there are 110,000 tons of bituminous coal all told in both harbors. The anthracite, while not measured, is estimated at not to exceed 50,000 tons. The bituminous coal stocks at Bayfield and Ashland will aggregate 50,000 tons. The coal men say the stocks are too large to suit them, but the fact remains that they are infinitely smaller than last year, or the year before at this time.

The damage occasioned by fire to the steamer North Land last week will not be as great as at first estimated. No estimates will be given out until the insurance adjusters have made their reports. It will not take above three weeks to make the repairs and there is ample time for the work to be completed before the vessel goes into commission.

The Northwestern Coal Railway Company expects to unload coal at its Allouez dock during the present season of navigation at the rate of about two cargoes daily.

Captain J. T. Marcy has purchased the tug Rambler, and will use it for an excursion boat on the bay of Superior during the summer.

The Barclay mill is in operation and will continue to grind until the close of the present season of navigation.

The wheat receipts at Superior are averaging about 100 cars a day.

The Duluth lumber market has been the scene of considerable activity for the past week. Sales aggregating not less than 7,000,000 feet were made to go forward to Lake Erie and Lake Michigan points. The biggest deal which was made was for 2,600,000 feet of No. 2 stock and better. The sales was made by Richardson & Avery of Saginaw, to Potter & Tear of Cleveland. The lumber is at Duluth mills, and the sale cleans up all of the lumber on hand which was owned by Richardson & Avery. F. L. Gilbert, returned from the east last week and reports having made sales aggregating several million feet of lumber to go forward to Lake Erie this season. He says the lumber market in the east has improved much of late and that the situation on the whole is much more encouraging.

The night department of customs at Duluth has been established for the season. The office will be located as heretofore, at the foot of Fifth avenue west. P. O. Noben is the night deputy collector of customs. The office will be open from 7 p. m. to 7 a. m.

The new regulations regarding flour storage at Buffalo and New York by the trunk lines will have the effect of increasing flour stocks at Superior this year. In previous years flour storage was furnished free at Buffalo when delivered by the boats on a through rate, but now the free storage is limited to ten days, and after the expiration of that period, there is a storage of 1½c per hundred for the first thirty days, and 3c per hundred after that. It has been the custom to push shipments to Buffalo or New York and let it lay until a favorable opportunity to dispose of it offered. Money could be borrowed on the flour at a low rate if desired. But the same regulation is also in force at New York as regards storage, and the natural results will be to delay shipments from here until there is the assurance of no delay at the eastern terminal points. The result so far as local mills are concerned will be that when storage capacity is filled and sales are dull there will be more or less shutting down. There may be a slight advantage, however, for Superior mills in that they will be in a position to fill orders more quickly than from any other point in the northwest.

The Duluth life-saving station went into commission last Thursday. The crew this year will include nine men. Captain D. McKenzie continues in charge.

The new Northern Pacific freight sheds are up and enclosed.

ELLIS E. BEEBE.

CLEVELAND.

WHO WILL SAY HOW THE CUYAHOGA RIVER SHALL BE IMPROVED?—DEATH OF AN AGENT.

CLEVELAND, April 30.

The city is about to bond itself for \$500,000 for river improvement, and now there is a difference of opinion as to who shall dictate the work. All are unanimous that a commission shall be formed, but who shall appoint the members. The mayor says he is going to do it, and he apparently holds the trump cards. The best thing about the controversy is that all sides are agreed that Capt. C. E. Benham, now a member of the City Council, shall be a member of the commission. Capt. Benham, besides being a thoroughly practical man and good financier, has already evolved some of the best ideas

that have yet been brought forward in regard to the details of the proposed improvement. The needs of the upper river will receive the same attention at his hands as will those of the lower river, and lumber, coal and ore interests will be looked after impartially.

Capt. Joe Denville has opened a real estate office and vessel agency at No. 94 Superior street, room 1, and is an active figure in the freight market.

Secretary Luther Allen, of the Globe Iron Works Co., is building a handsome residence on Euclid avenue.

The Cleveland and Buffalo Transit Co's management were advised, Tuesday, of the sudden death at New York of Mr. T. B. Lynch, general eastern agent of the line, whose headquarters were in that city. Gen. Freight Agent Rogers was with Mr. Lynch a few hours before his death, and remained at New York until after the funeral.

CHICAGO.

SEVERAL CHANGES OF SMALL SPECIMENS OF VESSEL PROPERTY—MOVEMENTS OF THE PASSENGER AND FREIGHT LINERS.

Special Correspondence to The Marine Record.

CHICAGO, April 29.

A. W. Cook, vessel and insurance agent, has been appointed manager of the marine department of the Farmers' and Merchants' Insurance Co.

The steamer C. B. Lockwood, from Cleveland with 2,700 tons of Blackhorse coal, consigned to the O. S. Richardson Fueling Co., was the first vessel to arrive here this season with coal from the lower lakes. Her cargo was delivered at the company's fine new dock at the mouth of the Chicago River.

The U. S. revenue cutter Calumet returned from South Chicago on Friday, where she had been to receive a new coat of paint and her spring fitout. She is now in commission.

Chittenden & Co., vessel agents and brokers, sold the steamer Viola for Capt. Louis Keuhle and Louis Hohmann to W. J. Conners, of Buffalo. Consideration, \$2,800. The Viola has received a new coat of paint and has been inspected. She will be used for conveying the foremen and unloaders employed by Mr. Conners in unloading the line steamers at this port.

Of the line steamers the Susquehanna, of the Anchor Line, was the first to arrive here this season, coming on the 22nd inst. from Erie. The Chemung, of the Union Line, the Saranac, of the Lehigh Valley Line, and the Hudson, of the Western Transit Line, all from Buffalo, arrived on the 23d inst.; and the Lackawanna Liner Lackawanna on the 24th, also from Buffalo.

B. L. Newman, owner of the excursion steamer R. C. Gordon, has purchased the iron sidewheel excursion steamer Ivanhoe and will have her brought back here. Capt. James Curran will bring her from Sault Ste. Marie. Both steamers will be run in the excursion business between the Lake Front and Windsor Park and Manhattan Beach during the summer season.

J. J. Rardon & Co. chartered the steamer City of Cleveland and barge John Martin for corn to Midland at 1½c; H. W. Cook & Co. chartered the steamer Philip Minch for corn to Buffalo at 1½c; P. H. Fleming & Co. chartered the steamer S. F. Hodge for corn to Port Huron at 1½c; the steamer City of Berlin for corn to Buffalo at 1½c; C. W. Elphicke & Co. chartered the steamer Roumania, schooner Barlum and steamer H. W. Sibley for corn to Buffalo at 1½c.

The steamer City of Berlin which left here on the night of the 14th inst. with corn for Fairport and was the first steamer to pass down through the Straits of Mackinaw this season, made the first round trip from this port to the lower lakes this season and arrived back here on the 23d with a cargo of coal from Erie.

The L. M. & L. S. Co.'s steamer City of Duluth arrived here from Duluth Tuesday morning. The company's steamers City of Traverse left here for Duluth on the 22d inst., the Peerless on the 25th and the Jay Gould on the 29th.

The sidewheel steamer City of Milwaukee, Capt. John Stewart, which has been chartered by the Graham & Morton Transportation Co., arrived here Tuesday morning from St. Joseph and returned at noon on her first trip of the season. She will be a grand addition to the Graham & Morton Line and will run in connection with the company's steamers City of Chicago and City of Louisville. As soon as the excursion season commences all three steamers will leave Chicago for St. Joseph daily.

The whaleback passenger steamer Christopher Columbus will come back to Chicago this season and run between Chicago and Milwaukee. She will be run under the management of Capt. Alex McDougall and John J. Keith & Co., Rialto Building.

The Northern Michigan Line steamer Petoskey will go into commission and leave here Saturday night for Northern Michigan ports. She will be officered as follows: Captain, G. C. Wilbur; first mate, — Mooney; chief engineer, Tom Collins; clerk, Ed Henderson; steward, Frank McQuillan.

The Dunham Towing & Wrecking Co. have purchased the tug L. B. Johnson for \$3,500.

The Independent Tug Line towed the schooner Barlum to South Chicago to the Calumet elevator, the steamer John Craig and schooner Cora A. to Armour's E. elevator; the steamer City of Cleveland and schooner John Martin to the Illinois Central elevator.

THOMAS WILLIAMS.

DREDGING EAST SHORE, LAKE MICHIGAN.

Col. G. J. Lydecker, Engineer Corps, U. S. A., in charge of river and harbor improvements on the east shore of Lake Michigan and the west shore of Lake Huron, opened on Saturday, April 25, proposals for dredging harbors on the east shore of Lake Michigan. The bids are as follows:

No.	Name and Address.	Dredging per cubic yard.	Transfer of Plant per mile.
1	William A. Starke, Milwaukee, Wis.	11½ cts.	\$2.00
2	C. E. Mitchell & Co., Ludington, Mich.	12 ⁸ / ₁₀ "	1.00
3	Carkin, Stickney & Cram, Detroit, Mich.	13 ³ / ₈ "	3.00
4	Illinois Dredging Co., Chicago, Ill.	14	2.00
5	Chicago Dredging & Dock Co. Chicago, Ill.	24	2.00

W. A. Starke's bid is evidently the lowest and will undoubtedly be recommended for acceptance.

Maj. Clinton B. Sears, the government engineer at this point, opened bids recently for the dredging at Portage Lake canal. There were three bidders, Captain C. S. Barker of Superior, Williams, Green & Williams of Duluth, and James Pryor of Houghton, Mich. The last mentioned bidder was the successful one. The dredging estimate is about 30,000 yards and the bid of Mr. Pryor of \$4,225 was accepted. This figure was only \$25 under the bid of the Duluth firm and \$125 under the bid of Captain Barker. The work for which the contract was let contemplates dredging out sandbars which have formed since last fall and of straightening the channel. The government makes a special allotment for this work, which it is found necessary to do annually.

THE FREIGHT SITUATION.

Some members of the tacit combination of vessel owners have fallen over the breastworks, and some of the whaleback fleet and one or two other vessels have been put in at \$1 to October 1, and \$1.05 for six weeks thereafter from Duluth and Lake Erie ports. M. A. Hanna & Co. and Tod, Stambaugh & Co. were the ore dealers who closed the season charters. About 400,000 tons is to be moved on their contracts before October 1, and a smaller amount afterward. While other owners insist that rate will not be met by them, it is unquestioned that they will now find it difficult, if not impossible, to secure the \$1.10 rate which was almost conceded by the ore dealers.

Wheat is still paying 3c from Duluth and Superior, but wild ore rates, while strong are still \$1 from the head of Lake Superior and 85c from Marquette. By reason of a livelier grain movement from Chicago, the Escanaba ore rate advanced to 60 cents this week, and is firm at that figure. Corn from Chicago is paying 1¼c and wheat 2c to Lake Erie.

Coal rates remain practically unchanged, with a little more demand for tonnage. Lumber charters last made at Duluth were at the rate of \$1.87½ to Buffalo. It is stated that a rate of \$1.50 has been made from Bay City to Buffalo, but no boats are named.

THE BLOOMSBURG CIRCULATOR.

Capt. Peter Bloomsburg, of H. Bloomsburg & Co., of Wilmington, Del., patentees and manufacturers of circulators and steam jets, arrived in Cleveland Thursday morning. He is on a trip around the lakes, introducing his water circulator for Scotch-type boilers, and his jets, which are placed in smokestacks for inducing draft. Capt. Bloomsburg is both a licensed master and engineer, and has been for thirty years and more a prominent figure on the Atlantic coast in these capacities and as a prosperous shipowner. The circulator and jets have proved very successful in the ocean greyhound City of Paris, and fast coast line steamers, including the Brandywine, City of Chester, Al. Foster and the new steamer Middletown. The circulator forces the water up from the bottom of the boiler by means of an induced current caused by the entrance of the feed water, and has connected with it a steam circulator which admits of making steam in a boiler in two hours—certainly an improvement over the five to seven hours consumed by the old method—and this without any excessive strain on the boiler. The jets made by this firm are placed in stacks in number sufficient to keep a solid

column of gases constantly emerging from the stack. Capt. Bloomsburg is coming into the lake trade with an energy and judgment which seem to insure him a good measure of success, and carries a number of excellent testimonials from builders of high standing on the coast, confirming the truth of his claims.

WRECKS AND WRECKING OPERATIONS.

The Escanaba Towing and Wrecking Co.'s tug Monarch made a preliminary visit to the Sheriffs and Bell, ashore on Big Sumner Island, on Wednesday of last week. Capt. C. H. Sinclair, wrecking master for C. A. Macdonald & Co., of Chicago, accompanied the expedition. The Sheriffs was found to be in much better condition than had been expected. She rests finally on a smooth rock bottom in seven or eight feet of water. She has about 1,100 tons of soft coal aboard, which has been purchased by the wreckers, and which will be removed at once. The wrecking company expected to begin actual operations on the Sheriffs this week, and will probably secure a contract for releasing the Bell, which lies in deeper water not far from the Sheriffs. Her coal cargo is still owned by the Green Bay consignees.

Capt. B. B. Moiles has begun the work of raising the wrecking tug Gladiator, which burned and sank at Kemp's lower dock, at the Sault, Oct. 17, 1895. After raising the Gladiator he will take her to Saginaw, where she will be entirely rebuilt at Moiles Bros.' shipyard. The timber work for her was all gotten out and framed during the winter, and she will probably be ready for sea again in six weeks. She will be provided with all the modern steamboat equipment, including steam steering gear.

Capt. J. V. Tuttle, who secured, last fall, some of the copper jettisoned by the Centurion at Isle Royale, will return to the spot as soon as practicable this spring. There is about 400 tons there, in from 12 to 18 feet of water, and it can be recovered in a few days of calm weather. After the attempt was made last winter by unauthorized persons to get the copper, Capt. Tuttle hired two men as watchmen, had them appointed deputy U. S. marshals, and furnished them with rifles. These men have camped on the island within range of the copper.

The big passenger steamer North Land caught fire last Thursday night April 23, at her dock in Duluth. The fire tug Lyon and harbor tug Carrington were called and soon put out the fire, with assistance from several hose companies on shore. The parlor cabin, forward section of the main cabin, captain's quarters, pilot house, and other parts of the texas were badly damaged, but it is thought \$8,000 will repair the damage, and the ship will be ready to go into commission at her usual time, June 1.

The steamer Northern Light caught fire in the coal bunkers on her way down Lake Superior Friday, April 24. The fire was soon extinguished, and temporary repairs were made at the Sault. The entire deck load of flour was damaged by smoke, the loss on this was about \$10,000. The damage to the hull consisted of sprung decks, deck beams, and hatch coamings. The W. D. Rees, which was close at hand, helped to extinguish the flames.

Barge 104 collided in Detroit River, Friday, the 24th, with the Philip Minch. The barge kept afloat until Lake St. Clair was reached, when she sank. She was raised Sunday morning by the tug Wales, and went to the Detroit drydock to receive a temporary patch. Her wale strake was badly broken, and she had a cracked plate amidships. The Wales had her stem damaged while towing the barge, and had to have a new rudder.

The tug Wisconsin, bound from Tonawanda to Duluth, filled and sank at one o'clock p. m., April 27, in Lake Erie off Lorain. Capt. James Skeldon, Engineer Lea Coms, Fireman Ed Coyle, and Lineman William Carroll, who were aboard, were taken off by George T. Smith, a fisherman who responded to the distress signal. The Wisconsin is valued at \$8,000, and had recently been purchased by Nagle & Hadley of Toledo. Foul play is suspected, but it is thought the mischief was done before the tug left Tonawanda. She will be raised at once. The Cleveland Towing Co., has already sent an expedition to her.

The Simon J. Murphy got on at Point aux Barques, Lake Huron, Wednesday morning, but was released without damage the same day, after jettisoning 300 tons of ore.

FLOTSAM AND JETSAM.

Navigation opened at Port Arthur Monday.

The Welland canal opened for traffic Tuesday.

The House on Saturday last passed House bill 4,787, making Conneaut, O., a sub port of entry.

The T. D. Stimson was libeled at Buffalo Friday on a \$200 repair bill at the instance of John Mahar, of Tonawanda.

The Canadian Pacific Railway Co., have plans ready for a new 1,500,000 bushels elevator, to be built at Fort William.

Commander W. W. Mead has been authorized to delay until May 11, reporting as equipment officer at the Norfolk Navy yard.

Wescott's marine reporting service has gone into commission, with George Abrams and James Christie in charge of the boats.

The members of the Lake Carriers' Association have decided to leave port without trimming when trimmers refuse to work at the association rates.

The Senate has incorporated, in the Sunday civil bill, an amendment appropriating \$40 for the establishment of two range light stations in Sandusky Bay.

Gen. Manager Carter, of the D. & C. S. M. Co., received a conscience contribution of \$3.40, fare and interest from Cheboygan to Alpena, the trip having been made in 1890.

Capt. J. P. Cottrell of the steamship Victory has been detained at his home in Redlands, Cal., by illness in his family. The Victory will be commanded by Capt. Malory until Capt. Cottrell's arrival.

O. S. Richardson & Co., Chicago, are completing the construction of an immense dock on the Chicago river with 50,000 tons capacity. They will have a five-ton derrick and two travelling derricks.

It is expected that by Oct. 1 the Calumet river at South Chicago will possess a channel 20 feet deep from the harbor entrance to One Hundred and Tenth street, a distance of two miles.

John Gordon has named his line the Great Lakes Steamship Company, and is located in a neat office in the Guaranty building. No additions have yet been made to the Globe.

The St. Joseph River Transportation Co., has been organized by Benton Harbor and Chicago capitalists to operate a line of river steamers between St. Joe and Buchanan, a distance of thirty miles. A new \$34,000 steamer has been ordered.

Manager Edwin Ball, of the Minnesota Iron Co.'s Mines at Soudan, Minn., was discharged from custody in the case filed against him by union men, who claimed to have been discharged because they were such. The court ruled that the state had made no case.

The underwriters have instructed Capt. F. B. Hackett to place a light-ship over the wreck struck by the Teutonia, off Colchester. There is a good channel on either side of the wreck, from which light bears SE. ½ E., three miles distant, Colchester Point due north, and Bar Point light W. ½ N., according to bearings taken by the officers of the Santa Maria.

The Sault Democrat had a guessing contest upon the opening of navigation this spring. The tug Merrick reached the lock at 4:01 p. m., Saturday April 18, and the first prize was won by Maurice Reidy, grocer, who guessed only one minute too early. April 18 was the date of the opening in 1858 and 1892, and the opening has occurred earlier in only three seasons as follows: 1878, April 8; 1889, April 15; 1894, April 17.

The Chandler-Dunbar Co., have completed the preliminary work on their dock above the railroad bridge at the Sault. It will be ready for use about July 1, and will be equipped with electric hoists of modern design for unloading coal and other heavy goods, about 5,000 tons of coal for the Duluth, South Shore & Atlantic Railroad heretofore taken to St. Ignace or Gladstone, will be received at the Chandler-Dunbar dock this season.

The owners of the steamer Coffinberry alleged that the Phoenix Iron Works were the cause of their ship going ashore; sued Orin and William Jenks for \$30,000. Last Tuesday Judge Swan dismissed the foolish suit, as the steamer was 75 miles north of here when the boiler got adrift, and the craft went ashore because her officers did not know enough to let go their anchors. The boiler taking charge of the main deck was due to their negligence, and Orin and William had no more to do with it than the man in the moon.—Port Huron Herald.

CORRESPONDENCE.

We do not hold ourselves responsible in any way for the views or opinions expressed by our correspondents. It is our desire that all sides of any question affecting the interests or welfare of the lake marine should be fairly represented in THE MARINE RECORD.

WAUGOSHANCE PASSAGE.

To the Editor of The Marine Record:

Waugoshance lighthouse, within a radius of two miles, is surrounded by several shoals and boulders, of which Vienna Shoal and Rose Shoal are the principal ones, rendering it dangerous for vessels to pass the light any nearer than two miles. West from Waugoshance light, at a distance of $4\frac{1}{4}$ miles, is Gray Shoal; the distance between the latter and Vienna Shoal is $2\frac{1}{2}$ miles, forming the width of the passage proper; the center of the passage being 3 miles from Wangoshance light.

Vessels in running out are safe by picking up the 10-fathom line one mile west from Skilligallee light and steering N. by E. $\frac{1}{4}$ E. magnetic, which course leaves Vienna Shoal, as well as Gray Shoal, at a distance of $1\frac{1}{4}$ miles. From which follows, that by passing Skilligallee light, an error of $1\frac{1}{4}$ miles in distance from the light is sufficient to bring a vessel in Waugoshance Passage on the strand, and therefore, that it is safer to start through the passage from the 10-fathom line one mile west of Skilligallee than from any other point farther away. Further, as Vienna Shoal and also Gray Shoal are 7 miles distant from Skilligallee, a compass error of $\frac{3}{4}$ point will wreck a vessel on these shoals in spite of a proper start.

Errors of $\frac{3}{4}$ point on north and south courses are not unusual in unadjusted compasses, as compasses are sometimes found to be out as much as two points on these courses. The neglect of having compasses adjusted is therefore the principal cause of stranding.

In running in, Skilligallee light bearing S. $\frac{3}{4}$ W. carries vessels safely through the passage. With a correct compass there is not the least danger or difficulty in making the passage, in the absence of the two light vessels at Gray Shoal and White Shoal. To avoid Rose Shoal when approaching from the east, it is only necessary to pick up on the range Skilligallee-Waugoshance the 10 fathom line three miles distant from Waugoshance light, keeping the light steadily abreast until Skilligallee light bears S. $\frac{3}{4}$ W.

From all of which it appears that the two light vessels mentioned above are not required at all for making the passage in clear weather; and are only of use in thick weather, by reason of their fog signals. Two gas and bell buoys in their stead would do the same service.

Therefore, it is safe to say, that strandings of steamers in Waugoshance Passage are mainly due: 1. To neglecting to make the right start. 2. To wrong compasses on board ship.

JOHN MAURICE.

Chicago, April 24, 1895.

NEWLY ENROLLED TONNAGE.

Following is a list of lake vessels to which official numbers and signal letters have been assigned by the Commissioner of Navigation, for three weeks ended April 25:

Official No.	Rig.	Name.	TONNAGE.		Home Port.	Where Built
			Gross.	Net.		
92,696	Schr.	*Manda	3,256.09	3,121.36	Cleveland	Chicago
92,697	Schr.	*Martha	3,256.09	3,121.36	Cleveland	Chicago
127,125	St. s.	Clara S.	15.65	10.64	Detroit	Monroe
141,421	St. s.	*L. C. Waldo	4,244.26	3,290.02	Detroit	W. Bay City
96,324	St. y.	Hiawatha	109.45	71.43	Cincinnati	Nyack, N.Y.
86,347	Slpy.	Genevieve	7.10	7.10	Chicago	Chicago
127,130	Schr.	Con'ly Bros.	751.81	694.59	Buffalo	Marine City
86,348	Schr.	*G. Hartnell	3,265.50	3,154.71	Detroit	Chicago

*Steel.

WEIGHS CARS WHEN IN MOTION.

The Fairbanks-Morse Scale Co. has completed an invention by which their scales will automatically weigh and record the weights of cars passing over the scales while the train is moving steadily along. Mr. F. L. Berry, of St. Paul, representing this company, has just finished the installation of one of these at Tower, Minn., for the Duluth & Iron Range Railroad. Such a device, if practical in its workings, should be adopted by every ore dock company or every railroad company with ore dock terminals. The saving of time would be considerable every working day in the year, and a set of scales of this sort would soon pay for itself in the

time thus saved, which means so much work with the same equipment, and consequently so much more economy in this branch of railroading. The only objection to it is the different heights of cars, in which the coupling has considerable effect, but this difficulty is found with all weighing done without uncoupling the cars. Uncoupling is the practice on very few docks.

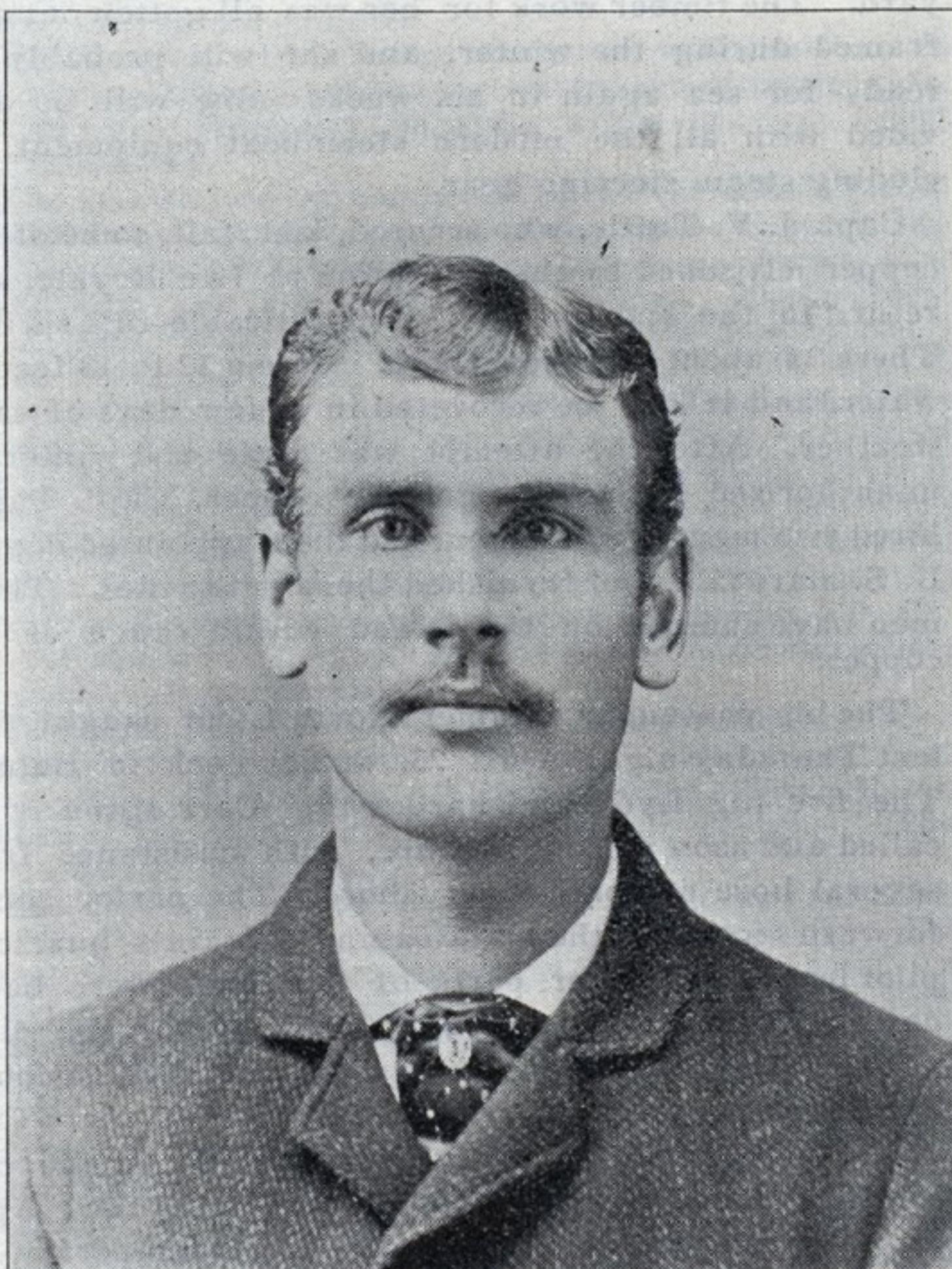
BIG LUMBER SALES.

Sales amounting to over 40,000,000 feet had been made by Marinette and Menominee firms up to April 15. This is more lumber than was sold up to the same date last year. Prices have also been ruling high. The Sawyer-Goodman Co. sold to the Rockwell Manufacturing Co., of Milwaukee, its entire cut of 1896, 25,000,000 feet. The Ludington-Wells Co. sold to the Illinois Central Railway Co. a bill amounting to 12,000,000 feet. Adam Schello and Arthur Gurley, of Chicago, purchased 1,000,000 each. Other sales which make the total aggregate over 40,000,000 were made.

NOTICE TO MARINERS.

DUNKIRK PIERHEAD LIGHT-STATION.

Notice is given by order of the Lighthouse Board that, on or about April 30, 1896, a fixed red tubular lantern light will be established in the structure recently erected on the easterly end of the west breakwater,



CAPT. R. M. SMALL.

about 25 feet from the channel face of the pier entrance to Dunkirk Harbor, Lake Erie, from which the former pierhead light structure was washed away December 31, 1895. The focal plane of the light will be 41 feet above mean lake level.

The light will be visible from all points of approach from the lake. It will illuminate 209° of the horizon lying between N. 88° E. (E. $\frac{1}{2}$ N.) and 63° W. (NW. by W. $\frac{3}{4}$ W.). Bearings from a vessel. The structure is a dark red, pyramidal, open framework, surmounted by a square lantern, with white roof, and having a balcony with black hand rail.

NOTES FOR NAVIGATORS.

Capt. George A. Zinn, Corps of Engineers, gives notice through THE RECORD that the lightship has been replaced April 25, 1896, at the south end of the unfinished breakwater, Milwaukee Bay, at the expense of the engineer department.

The lightship attached to the buoy on the middle ground of St. Clair River, opposite the mouth of Black River, at Port Huron, is the property of J. J. Lynn, marine reporter of that place. The ownership given last week was an error.

Captain Jos. Rouleau has placed and lighted two lightships at the turning point at the foot of Sugar Island, on the Black Stake side. Both lightships will show green lights. He has also lighted the ranges at the head of St. Joseph Island, which show white lights.

MARINE RECORD Life Savers' Series.

CAPT. R. M. SMALL.

Capt. R. M. Small, keeper of the life-saving station, is not so boyish as he looks. He is thirty-three years of age, and has seen a great deal of trying service in several of the most important lake stations.

Capt. Small was born at Kincardine, Ont., on the shore of Lake Huron in 1863, and from the age of twelve years his time was spent on the lakes in fishing and kindred industries. He enlisted in the life-saving service in 1881, at Ottawa Point Station, Tenth district, with G. W. Plough, keeper. After serving there for three years and receiving an honorable discharge, he went the following spring to Point aux Barques Station in same district under Keeper Harry D. Ferris, where he remained for six years. During his time at Point aux Barques, he assisted to rescue the entire crews of the British schooner Ark, of Port Dalhousie, Ont.; the schooner Mona, the schooner Boody, the steamer Pease, and several others. In March, 1890, he was promoted to be keeper of Crisp's Station, which is situated 16 miles west of Whitefish point on the south shore of Lake Superior, an open and most dangerous shore. On May 4, 1892, he succeeded in rescuing two of the crew of the schooner Atlanta, which foundered twenty-five miles northwest of this station. It was a miracle that those two men were rescued as they were more dead than alive when reached. Besides assisting numerous other vessels stranded on September 30, 1895, during one of the worst gales that swept Lake Superior—the same storm that wrecked the Kershaw, Moonlight and Kent at Marquette—Capt. Small and his crew launched their life boat in the teeth of the storm and sailed her fourteen miles to the eastward, rescuing the entire crew of the schooner Jones, two miles west of Whitefish Point Light. When about three-quarters of a mile off shore the life-boat capsized, dumping fifteen persons into the heavy breakers; but the crew succeeded in getting the schooner's crew all back into the lifeboat and landing them safely on shore. Some of both rescued and crew were nearly dead by this time. From 7 a. m. until 8 p. m. the crew were exposed to the worst kind of hardships, as the heavy seas would comb completely over the little life-boat.

COAST AND FOREIGN SHIPPING NOTES.

During March English builders launched 24 vessels, of which 14 were steamers, six trawlers, two battleships, one a second-class cruiser, and one a torpedo-boat destroyer. Of these vessels Wear builders launched six, of 17,060 tons, as against four vessels, of 9,075 tons, in March last year, their total for the year so far being 23 vessels, of 58,000 tons.

During the last month Scotch shipbuilders launched 28 vessels, of 41,050 tons (against 24 vessels, of 39,391 tons, in February, and 27 vessels, of 20,176 tons, in March, 1895), of which 21, of 34,763 tons, were steamers; three, of 4,887 tons, sailing-ships; two, of 1,140 tons, steam-barges; and two, of 250 tons, steam line fishing vessels. For the year so far 108,924 tons have been launched, against 61,960 tons for the same period last year, 64,191 tons in 1894, 53,991 tons in 1893, and 105,145 tons in 1892.

James Gresham, of Brooklyn, is building a 43-foot steam-yacht for W. J. Arkell, the proprietor of Judge, the comic weekly newspaper whose political cartoons have helped to make its owner famous and rich. The new boat is to have a guaranteed speed of 30 miles an hour.

The Gas Engine and Power Co. are building a 96-foot steam yacht for Mr. Holder, of Yonkers, N. Y.

SIGNS OF THE TIMES.

If the present Long Island Sound line travel is any indication of what is to follow, the traffic via that great highway during the coming summer season will exceed anything heretofore known.

The magnificent Princilla and Puritan are in commission on the Fall River line for the season, having taken the place of the Plymouth and Pilgrim a few days ago, and are running to their full capacity. On Monday last the Puritan was called upon to accommodate over 1,200 passengers. This, however, is nothing unusual even at this season of the year. In fact, when the number on board is less than eight or nine hundred it results in surprise to the management of that most popular route between New York and Boston.

A FEW NEW INVENTIONS.

Lake inventors are once again coming to the front. Mr. George H. Breyman, the well-known dredging contractor, of Toledo, has obtained a patent (No. 559,769) on a Dredging and Excavating Apparatus, for which he filed about thirteen months ago. The claim is as follows:

In an apparatus for dredging, the combination of a dipper, scoop or shovel; a cable connected with and serving to move the same; a hydraulic cylinder; a piston movable within the cylinder and connected with the cable; on accumulator communicating with the hydraulic cylinder; a steam pump for supplying the accumulator; a self-closing throttle valve for controlling the supply of steam to the pump, and a piston subject to pressure within the accumulator and serving to open the throttle as pressure increases. In place of one pump, two pumps may be applied, one adapted to deliver a large volume at relatively low pressure, and the other adapted to deliver at a relatively high pressure. The claim is also for the combination of a main frame or platform; a turntable mounted thereon and carrying the excavating or dredging appliances; a hydraulic cylinder; a piston movable within the cylinder; a cable connected with opposite sides of the piston and the turntable; and a pump adapted to withdraw liquid from one side of the piston and deliver it to the other side.

Bart Lobe, of Buffalo, has secured a patent (No. 558,401) on a Protecting Cover for Small Boats, aboard ship and elsewhere. The claim is for the combination, with the removable canvas cover, of a series of rings secured around the edge of the cover, a corresponding series of staples secured near the top and around the sides of the boat, and rods adapted to pass through said rings and staples, and which can be easily drawn out, instantly releasing the cover from the boat. At the front and rear ends is a slitted portion, an overlapping covering flap attached to one side or edge of each slitted portion.

Pardon T. Perkins, of Oswego, N. Y., has just been granted a patent on a Seacock (Patent No. 558,702). The claim is as follows:

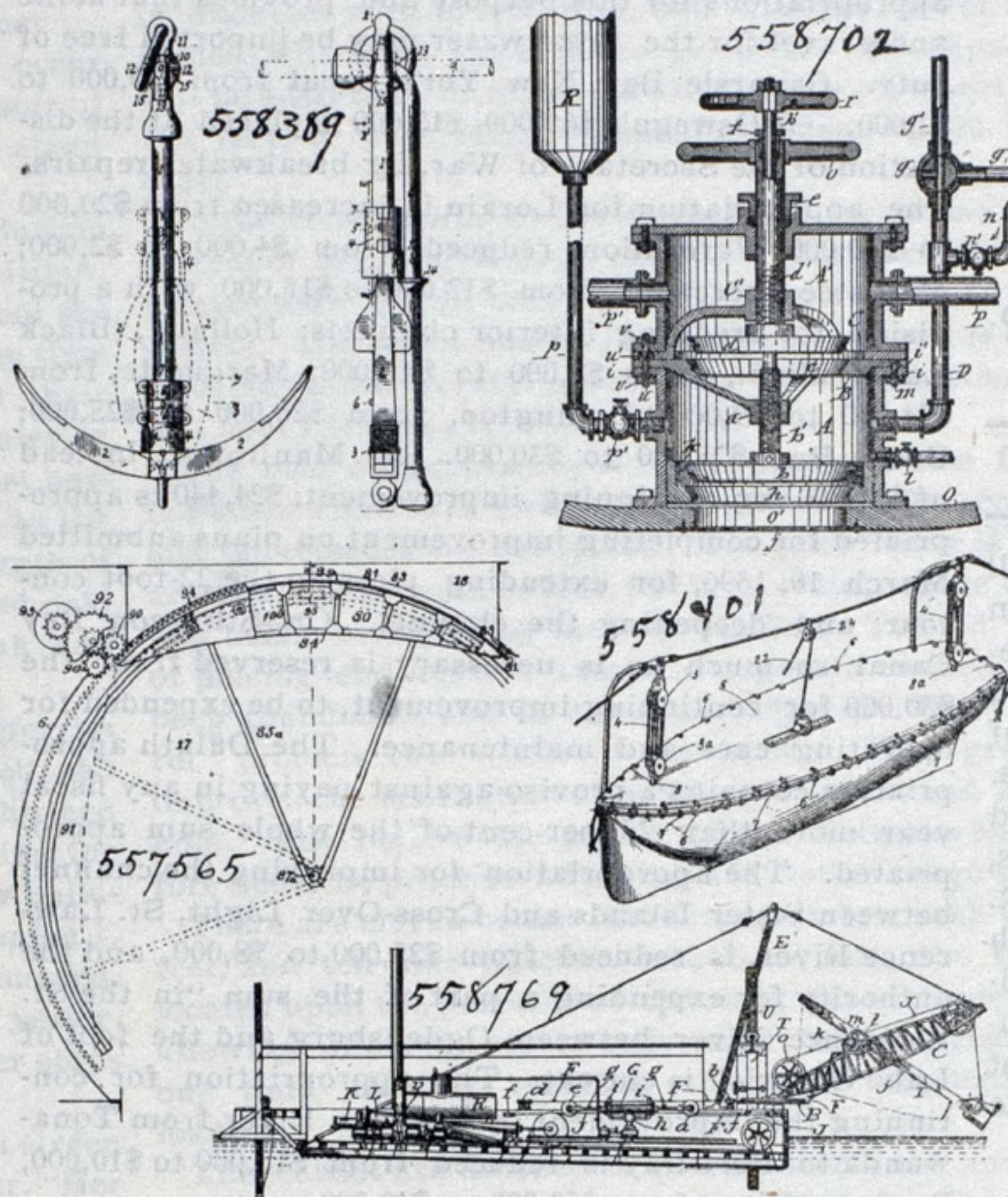
The combination of the case composed of an end section provided with a water-inlet valve at the base; two skeleton diaphragms secured to the top of said section and each provided with a screw-threaded eye in its center and the lower diaphragm provided with a valve-seat, a valve for said seat provided with a screw-threaded tubular stem passing through the eye of the upper diaphragm and through the top of the case, a screw-threaded stem attached to the aforesaid water-inlet valve and passing through the eye of the lower diaphragm and through the aforesaid tubular stem, a case-section over the upper diaphragm and detachably secured to the lower case section and separate water-outlets connected to the respective sections.

In combination with the lower case-section, A, and diaphragm B, secured to the top thereof, the diaphragm C mounted on the rim of the diaphragm, B, the case section A' mounted on the rim of the diaphragm C, and bolts " secured at the central portions of their lengths to the rim of the latter diaphragm and having their end portions passing through the rim of the diaphragm B,

and flanges of the case-sections and provided with nuts on opposite ends.

The combination with the detachably-joined case-sections A A' provided with the valves b d, and having outlets P P' connected to the upper section, the auxiliary outlet-pipe D connected to the lower section and provided with a valve for controlling the passage of water through said pipe, and the steam-induction pipe " connected to the pipe D between the valve thereof and the case and provided with a stop-cock.

Chauncey N. Dutton, of New York, the well-known inventor of the pneumatic lock which is beginning to revolutionize canal traffic, has invented a Gate for Canal Locks (Patent No. 557,565). The gate has a rotary motion, and as seen in the illustration, seems to insure greater rapidity of movement with a much smaller amount of power than has heretofore been used. The claim is for the combination, with a lock or dock, of a gate having its seating face a surface of revolution about a vertical axis, being adapted to move horizontally about said axis, and a concentric seating face on the lock; a positive mechanical guiding apparatus connected



with the lock and controlling its motion in a horizontal orbit, and a wheel segment and meshing pinion, one on the lock, the other on the gate, and adapts to move the gate circularly in a horizontal orbit. The gate has the necessary air space inside, to give it the requisite buoyance, and operates upon wheels, running upon a track at the bottom. The lock or dock must have a segmental pocket in one of its sides, into which the segmental gate fits, without waste of space.

MARINE RECORD for all nautical publications.

TRADE AND INDUSTRIAL NOTES.

The King Bridge Company, of Cleveland, has finished a long highway drawbridge over the Yellowstone River, at Glendine, Mont. The total length of the bridge is 1750 feet.

The "Providence" windlass is claimed by its manufacturers to be the most convenient windlass that was ever offered to the public, because the tandem engines are in the center of the windlass and take up no room that can be utilized for any other purpose, because they are placed right in between the friction levers and take up less room fore and aft than the friction levers themselves. This leaves the windlass itself open and easy to get at for cleaning, repairing or operating. This is only one of the many points of advantage which this machine has over other styles.

The annual meeting of the stockholders of the Joseph Dixon Crucible Company was held at the Company's main office, Jersey City, N. J., Monday, April 20, and out of a possible vote of 7345 shares, there were 7320 shares voted for the re-election of the old Board, consisting of Edward F. C. Young, John A. Walker, Daniel T. Hoag, Richard Butler, William Murray, Alexander T. McGill, and Jerome D. Gillet. President E. F. C. Young, Vice President and Treasurer John A. Walker, and Secretary Geo. E. Long were re-elected by the Directors. Judge Joseph D. Bedle was also re-elected as counsel.

FINE SHOWING OF A ROBERTS BOILER.

The trial trip of the U. S. steamer Scout was had on the Delaware River on April 18. She was designed by Lewis Nixon, but built by John H. Dialogue & Son, Camden, N. J. She was out about four hours, and ran down to a point somewhere between Chester and Wilmington. She has a 14 and 29 by 20 compound engine which turns up 184 revolutions, giving a speed of about 14½ knots, or say 17 miles. Everybody was very much pleased with the Roberts boiler with 60 square feet of grate, and it gave all the steam without forcing that the engine could use, and without any variation in the water level exceeding 1½ inches from full speed to dead stop. The contract called for 300 horse-power with natural draft, and it is estimated that about 400 horse-power was obtained, but the indicator cards are not yet worked out. This boiler is a duplicate of the two in the Unique at Detroit.—American Shipbuilder.

The Canadian lock at the Sault will be opened May 1, and will be operated day and night this season. There is now 19 feet, 8 inches of water over the sill.

RENEWING EAST PIER, CLEVELAND.

Col. Jared A. Smith opened bids last Saturday, the 25th inst., for removing a part of the old pier, and rebuilding, with cribbing and concrete, or stone. The bids in detail are given in the following table. It was recommended that the bid of James B. Donnelly, of Buffalo, which was very close to the estimate, be accepted, and this will without doubt be done promptly. Mr. Donnelly will not wait for a formal acceptance, but will begin at once to get out his timber, which will occupy about two months. The actual work of tearing out the old pier will begin about July 1:

MATERIAL AND WORK.			Jas. B. Donnelly Buffalo, N. Y.		Chas. H. Strong & Son, Cleveland, O.		C. H. Burgess & F. S. Gibbons, Cleveland, O.		Samuel Hunkin Thos. E. Wilson & W. J. Hunkin, Cleveland, O.		Buffalo Dredg- ing Co., Buffalo, N. Y.		The L. P. & J. A. Smith Co., Cleveland, O.		John Stang, Lorain, O.	
ITEMS.	QUANTITIES.	BID PER.	RATE.	AMOUNT.	RATE.	AMOUNT.	RATE.	AMOUNT.	RATE.	AMOUNT.	RATE.	AMOUNT.	RATE.	AMOUNT.	RATE.	AMOUNT.
Removing old pier and dredging.....	322 lin. ft.	Lin. ft.	\$ 2 10	\$ 676.20	\$27 50	\$ 8,855.00	\$30.00	\$ 9,660.00	\$25.31	\$ 8,310.82	\$30.00	\$ 9,660.00	\$10.00	\$ 3,220.00	\$32.00	\$10,304.00
Hemlock.....	439,914 ft. B.M.	M. ft. B. M.	18.00	7,918.45	22.30	9,810.08	35.00	15,396.99	19.00	8,358.37	19 50	8,578.33	19.00	8,358.37	21.00	9,238.19
Oak.....	19,086 "	" "	41.00	782.53	30.00	572.88	45.00	858.87	23.00	438.98	31.50	601.21	35.00	668.01	37.00	706.18
Ballast.....	800 cords	Cord	4.95	3,960.00	7.25	5,800.00	8.00	6,400.00	5.25	4,200.00	6 50	5,200.00	5.00	4,000.00	5.50	4,400.00
Rods and washers....	28,716 lbs.	Lb.	.03	861.48	3½c.	1,005.06	.04	1,148.64	.04	1,148.64	3½c.	1,005.06	.03	861.48	.03	861.48
Pipe.....	4,390 "	"	.10	439.00	.05	219.50	.15	658.50	.04	175.60	.04	175.60	.04	175.60	.04	175.60
Drift bolts.....	24,494 "	"	.03	734.82	2½c.	551.12	.04	979.76	.04	979.76	.02	489.88	2½c.	612.35	.02	489.88
Spike.....	2,898 "	"	.03	86.94	3½c.	101.43	.04	115.92	.04	115.92	.03	86.94	.04	115.92	.03	86.94
Screw bolts.....	40,427 "	"	.03	1,212.81	.03	1,212.31	.04	1,617.08	.04	1,617.08	.03	1,212.81	.03	1,212.81	.03	1,212.81
Ring bolts.....	584 "	"	.05	29.20	.15	87.60	.04	23.36	.04	23.36	.07	40.88	4½c.	26.28	.06	35.04
Concrete.....	1108.5 cu. yds.	Cu. yd.	4.70	5,209.95	9.50	10,530.75	8.00	8,868.00	6.48	7,183.08	7.00	7,759.55	6.00	6,651.00	7.50	8,313.75
Concrete blocks.....	8,016 cu. ft.	Cu. ft.	.59	4,729.44	46½c.	3,666.72	.40	3,206.40	.50	4,008.00	.40	3,206.40	.40	3,206.40	.40	3,206.40
Stone blocks.....	8,016 "	"			.42	3,366.72	.40		.70				1.00		.40	
Covering stone.....	683 sq. ft.	Sq. ft.	.65	443.95	.60	409.80	.30	204.90	.50	341.50	.95	648.85	.90	614.70	.85	580.55
Removing outer end of old pier.....	123 lin. ft.	Total length		400.00		3,500.00		3,500.00		3,174.00		30.00		15.00		3,936.00
Totals.....				\$27,484.77		\$46,022.45		\$52,638.42		\$40,075.11		\$38,695.46		\$29,737.92		\$43,546.82



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CLEVELAND, O., APRIL 30, 1896.

It is reported from Washington that the President will veto the river and harbor bill. The most that has been hoped is that he would allow it to become a law by default and it is not unlikely that Mr. Cleveland may send in a veto, with arguments combatting the extension of the continuous contract system to local improvements. If this is done, the passage of the bill may be delayed slightly, but not enough to hinder the appropriations, which do not become available until July 1 in any event. The vote which the bill received in its passage through the House, if repeated, would pass the bill over the President's veto, and nothing less is to be expected in the Senate. The history of Mr. Cleveland's vetoes has been that when a bill passed notwithstanding, the affirmative vote was heavier than that originally cast for the bill.

FURNACE circles were shocked early in the week by the statement of a Pittsburg paper that the Pittsburg, Shenango and Lake Erie railroad had cut the freight rate from Conneaut harbor to the new Carnegie furnaces at Duquesne to 53 cents. This would be a cut of almost 50 per cent. The present rate from Lake Erie to Pittsburg is \$1.15, with 20 cents off for dockage. The report occasioned considerable excitement among competitive furnaces on other roads in the Pittsburg district, but President Dick, of the Shenango, in an interview published Wednesday, denied that any such rate had been made. The story was a very unlikely one under present conditions, as the Shenango road runs only to Butler, Pa., and nearly all of a 53c rate would have to be paid to the belt line road which would have the balance of the haul. At the same time this is a glimpse of a future possibility. The Shenango has borrowed money, either from Mr. Carnegie or through his influence, to extend the road to Pittsburg and Duquesne. Mr. Carnegie's Shenango interests are small as compared to his furnace interests, and at the same time, he may, after the Shenango extension is completed, be able to exercise leverage enough to bring about such a cut, which would have to be met by the other roads, in order to protect the furnaces in their own districts.

THE Detroit Free Press described in a recent issue the methods employed by Canadian seamen to get into this country in the spring to work on American vessels. If sent back by the customs officers at Detroit they drop down the river to the Limekilns, and row quietly across. The ease with which this can be done along St. Clair and Detroit rivers serves as a sufficient proof of the futility and injustice of enacting such measures as the Woodman bill and its kind. It is impossible for an owner or master

to make certain, in even the majority of cases, that his crew are bona fide American citizens. The alien laborers are prompted by self-interest to deceive their employes, and restriction of labor immigration is going to meet the problem of practicability for a long time yet. THE RECORD is heartily in favor of giving preference to American citizens in distributing employment; but it is a prima facie injustice to hold an owner or master responsible for circumstances and conditions over which he has little or no control.

THE RIVER AND HARBOR BILL.

We are indebted to Congressman Burton for a copy of the river and harbor bill with the amendments proposed by the Senate Committee on Commerce, to which was referred. The committee at first cut out the appropriation for Dunkirk, but reinstated it when it was found to be the only appropriation for the district of Chairman Hooker, of the River and Harbor Committee. The Buffalo clause cuts out the \$35,000 immediately available for the sand catch pier extension, but appropriates the unexpended balance of unexpended former appropriations for this purpose and provides that stone and gravel for the breakwater may be imported free of duty. Canarsie Bay, New York, is cut from \$10,000 to \$2,000. Of Oswego's \$60,000, \$15,000 is placed at the discretion of the Secretary of War, for breakwater repairs. The appropriation for Lorain is increased from \$20,000 to \$30,000; Vermillion, reduced from \$4,000 to \$2,000; Manistee, increased from \$12,000 to \$15,000, with a provision for dredging interior channels; Holland, (Black Lake) Mich., from \$8,000 to \$10,000; Marquette, from \$24,000 to 29,000; Ludington, from \$20,000 to \$25,000; Green Bay, \$25,000 to \$30,000. At Manitowoc, instead of \$24,500 for continuing improvement; \$24,440 is appropriated for completing improvement on plans submitted March 10, 1896, for extending piers to the 22-foot contour and deepening the channel. On Sturgeon Bay Canal so much as is necessary is reserved from the \$30,000 for continuing improvement, to be expended for operating care and maintenance. The Duluth appropriation contains a proviso against paying in any fiscal year more than 25 per cent of the whole sum appropriated. The appropriation for improving the channel between Sister Islands and Cross-Over Light, St. Lawrence River, is reduced from \$25,000 to \$8,000, and the authority for expending a part of the sum "in the St. Lawrence River between Ogdensburg and the foot of Lake Ontario" is cut out. The appropriation for continuing the improvement in Niagara River from Tonawanda to Port Day is reduced from \$15,000 to \$10,000, Saginaw River from \$50,000 to \$40,000.

In the clause providing \$50,000 for continuing the Calumet improvement, the words "Provided that the expenditure of said money shall be made upon said river from the mouth thereof to the forks of said river" are stricken out and the following inserted: "And so much thereof as may be necessary shall be used for dredging to a depth of twenty feet between the mouth of the river and a point two miles southward."

The direction of the Secretary of War to cause a preliminary examination to be made at the harbor of Frankfort, with a view to obtaining an 18-foot depth of water, is cut out.

SOME LARGE CARGO RECORDS.

The new steamer W. D. Rees, of the Wilson line, loaded at Duluth Tuesday 132,000 bushels of wheat on a draft of 13 feet 5½ inches.

The schooner Martha, of the Minnesota line, has reached Erie with 165,000 bushels of corn.

The steamer Zenith City left Duluth Tuesday with 230,000 bushels of oats on 13 feet 3 inches draft forward, and 13 feet 9 inches aft. This is equal to 172,500 bushels of wheat.

JUST ON THE PRESS.

Our readers will be pleased to know that the last form of Beeson's Directory has gone to press and that, as promised, it will be distributed in the first few days of May. Mr. Beeson in nine years has published 12 editions of the work, every one markedly superior to its predecessor, but the volume for 1896 will not only outrank any of his previous directories, but will command universal attention and approval. After receipt of the work we will be able to give a complete description of it in our issue of next week.

APPOINTMENTS FOR THE SEASON.

The following appointments of masters and engineers for the season of 1896, have been announced by owners:

STEAMER.	MASTER.	ENGINEER.
Aragon	Stenton, Frank	Whalen, Patrick
Alcona	Brock, George	Willis, —
American Eagle	Magle, F. W.	Myers, Philip
Bradley, C. H.	Bennett, James	Haig, Adam
Butters, M. F.	Reid, Robert	
Buttironi, K.	Norton, Charles	
Baine, Jessie	Kendall, Aldrich	Farrell, Barney
City of Milwaukee	Stewart, John	
London	Anderson, Wm.	Ogg, Chas. R.
Rome	Long, R. H.	Welsh, A. E.
Chamberlin, P.	Black, —	
Christie, T. S.	Peterson, P.	
Coffinberry, H. D.	Ferguson, F.	
Conestoga	Cronkrite, —	
Corona (Br.)	Tolmes, W. H.	Walsh, W.
Dahlia	Hubbard, Chas. H.	
Duncan, Maggie	Clark, Charles	Buzzard, L. G.
Emma (Br.)	Scott, —	Pratt, E. S.
Ford, J. C.	Cooney, —	
Garden City (Br.)	Elliott, Dorrie	DeShane, John
Germania	Neal	
Cogebic	Smith, Charles	Smith, Chas. C.
Gowen, A. Y.	Mallory, D. H.	Haycock, E.
Hadley, G. G.	Ingalls, Wm.	
Hickox, C.	Cazallis, R.	
Holland, R.	Chilson, W. E.	Courtney, John
Hopkins, A. L.	Fish, Henry	
Kalkaska	Begg, A.	Robertson, J. W.
Kelton, Minnie	Chapman, —	
Long, J. J. (Br.)	Richmond, W.	Harris, Joseph
Morrill, Alf. (Br.)	Bolton, John	
Mills, Mary	Trombley, R.	
Martini, R.	Clark, A.	Morrison, J.
Magnettawan	Tyne, Harry	
Metropolis	Fleck, —	
Newaygo	Coleman, W. J.	
Nicaragua	Larson, Peter	
Normandie	Young, J. P.	Egan, Edward
Owen, J. E.	Hutchinson, —	
Oglebay, E. W.	Sanford, James	
Otis, John	Brown, G. C.	
Pauly, J. H.	Stevenson, Hugh	
Rappahannock	Graham, E. B.	Dillon, John
Rumbell, J. E.		
Penelope	Saple, C. M.	
Rose, D. F.	Gifford, —	
Saginaw	Furey, C. S.	
Sacramento	Cox, —	
Seymour	Duff, Wm.	
Schnoor, H. C.	Rivard, Paul	
Scott, T. R.	Flood, G. W.	
Shenandoah	Spowell, F. B.	Haig, J. H.
Spencer, George	Lester, H. G.	
Tempest (1).	Miller, John	
Tempest (2)	Evans, Wm.	
Thompson, E. E.	Manson, Wm.	
Tecumseh (Br.)	Stewart, Jas. P.	
White & Friant		
SCHOONER.	MASTERS.	
Active	Emery, J. H.	
Alleghany	Smith, C. O.	
Alta	Huntoon, Horace	
Armenia	Johnson, Carl	
Abyssinia	Gustafson, A.	
Algeria	Elnen, Martin	
Bacon, M. S.	Sullivan, D. C.	
Bay City	McKenzie, And.	
Brenton	Ray, Charles	
Case, Wm.	Higgins, —	
Cleveland, H. G.	Jennings, F.	
Fabiola (Br.)	Bates, D.	
Grampian	Overrood, Peter	
Granada	Starkey, Geo. W.	
Hale, O. J.	Kerwin, —	
Hallavan, R.	Murphy, Thos.	
Horner	Bell, R.	
India	Mitchell, J. B.	
Katahdin (Br.)	McFadzean	
Kelly, Ed	Berthelson, Dan'l	
Leighton, F. C.	Calhoun, Benj.	
Lone Star	Clark, Samuel	
Marsh, P. S.	Summerville, Wm.	
Metzner, Lizzie	Hanson, Erasmus	
Mont Blanc	Robinson, James	
Mott, John, T.	Henderson, C. J.	
Nirvana	Hudson, John	
Paisley	Starkey, E. J.	
Pelton, J. R.	Nelson, John	
Pennington, B. L.	Fuller, E. M.	
Ralston, Jane	LaCroix, Peter	
Richards, Alice	Balfour, Henry	
Root, H. D.	Faragher, Wm.	
Sage, H. W.	McLaughlin, J.	
Sigel, Gen. F.	Titus, A.	
Sonsmith, R.	Sonsmith, C.	
Thompson, E. M.	Kirtland, F. W.	
Uranus	Balfour, J. M.	
Watson, S. L.	Philp, S. E.	
Wesley, John	Little, Nelson	
Whitney, Grace	Cottrell, J. L.	
York State	Baker, Julius	

SHIP BUILDING AND REPAIRS.

COMING OUT RAPIDLY.

The new ships are rapidly approaching completion at the various yards. The next to go into commission will be the Coralia, for the Mutual line, which left the Globe shipyard this morning on her trial trip, and will leave on Saturday evening light for Escanaba. The launch of the Sir Henry Bessemer, the first of the Rockefeller fleet, is set for Saturday, May 9, and Superintendent Curr, of the Globe shipyard, does not anticipate any difficulty in getting her ready in time. The first record ever made at this yard on a ship, from laying the keel to launching was four months and twenty days, the boat being only 290 feet in length. In this case nearly the same record will have been made with a ship 432 feet long. This is a good showing, and reflects great credit upon Mr. Curr, who has occupied his position but a few months. The yard is working about 1,100 men. The second of the Rockefeller boats is well along, the interior work being kept well in advance with the shell plating. Work on this ship is not being pushed just now, forces being concentrated on the Bessemer.

The launch of the steamer E. W. Oglebay will occur during the first few days of May. Barge 137, consort of the Frank Rockefeller, will go into the water about May 9.

General Manager Newman, of the Cleveland & Buffalo Transit Co., received a letter from Mr. G. W. McMillan, of the Detroit Dry-dock Co., stating that he did not see why the big steamer could not be delivered some time next week. The plumbers have about finished their work, and the furniture is coming aboard. The interior is assuming an aspect which tends to show just how magnificent the boat will appear when finished. In the dining room the sideboard extends the whole length of the bulkhead, and the decorations are in quartered oak. The cabin is finished in white with shell-pink and sky-blue tints.

In addition to this interest in the W. & M. car ferries and the three boats chartered to Philip Munch and Palmer & Co., Capt. James Davidson will have thirteen boats in commission, most of them new, including the two wooden steamers and three tow barges now building, all of which will be ready for use before August 1. The names of the steamers have not been announced. The schooner, which was to have been launched yesterday, will be known as the Armenia, and her sister ships as the Abyssinia and Algeria.

Hill Bros.' new tug boat, built at Fish Creek, on Green Bay, last winter, is ready to be put into the water. Her engine is in place, and the boiler will be put in position as soon as it can be fished up from the bottom of Green bay, where it dropped while being transported over the ice from Sturgeon Bay six weeks ago. It lies in about eighteen feet of water, and it is thought, can be easily raised.

The new steamer which the Betram Co. are building at Toronto for the Niagra Navigation Co. will be named Cavana. She will be launched the first week in June.

The newly organized St. Joseph River Transportation Company have closed with Capt. Peterson, of St. Joseph, a contract for a \$34,000 steamer of light draft, to be ready for work by June 1.

The price of the two Rockefeller steamers building by the Detroit Dry-dock Co. is given out as \$256,000 each.

There was launched from the marine ways at Cincinnati, recently, the new schooner Virginia of the Pittsburgh & Cincinnati Packet Line. She is 235 feet long by 40 feet beam, and 7 feet depth, with a carrying capacity of 1,200 tons. She has two compound engines, the high-pressure cylinder of each being 34 inches in diameter by 7 feet strong. Her water wheel is of the divided pattern, 24 feet in diameter, the length of the blades being 30 feet. She has stern capstain, freight hoists, pumps, and automatic steam waterworks pumps. The cabin finish is very complete. The panels are ornamented with reliefs of lincrusta walton. The upper panels of stateroom doors are bevel-edged plate glass mirrors, and the main salon is lighted with 100 incandescent electric lamps.

The chances seem especially good for an appropriation for another revenue cutter for the Great Lakes, to be constructed during the next fiscal year. Senator Wm. P. Frye deserves the credit for this. The new cutter will be designed and equipped so that she may be

converted into a cruiser at a few hours' notice. Work on the Walter Q. Gresham, at the Globe shipyard, is moving slowly.

LAUNCHES OF THE WEEK. 42

The steamer Frank Rockefeller was launched at the American Steel Barge Co.'s yard, West Superior, last Saturday afternoon. About 6,000 people witnessed the launch, which was set for 3:45 p. m. Five minutes before that time the bow became released, either from the tigger dropping or the lines parting. There was a scramble among the men, but the launching signal was given instantly, the stern line was cut, and the danger was averted, the big ship plunging into the water without any unusual incident other than carrying the forward ways into the water.

The Rockefeller measures 384 feet long by 45 feet beam and 26 feet depth. Her triple-expansion engine, 23, 38, and 63 by 40 inches, and her three Scotch-type boilers, 12 x 13 feet, with three 38-inch furnaces, and allowed 175 pounds working pressure, were furnished by the Cleveland Ship Building Co. She has a Bath windlass and a Globe steam steerer. Her wheel is 13½ feet in diameter with 16 feet lead, and with the power furnished will drive her 14 miles per hour. Her capacity will be 4,000 tons or about 135,000 bushels of wheat on 14½ feet, or over 220,000 bushels of wheat on 20 feet draft.

In the construction of the Rockefeller the bulb-angle system of framing is used, and the builders are so well pleased with it that they will undoubtedly continue the system. Her water bottom is 48 inches deep and is constructed on the McIntyre principle. The compartments will hold 1,600 tons of water ballast.

The hull departs somewhat in appearance also from the other whaleback steamers. The deck has less crown and the topsides are straighter. The pilot house is separate from the main cabins, the intervening space of 34 feet being occupied by fueling hatches. The old plan of placing engines and stacks in separate tunnels has been abandoned, and in the Rockefeller one large turret protects the whole of the space. This greatly improves the ventilation of both engine-room and stoke hold. The boilers are placed higher than has heretofore been the practice, affording additional cargo space.

There are eleven center line cargo hatches, each 12 x 8 feet, and ten side hatches, each 6 x 4 feet, the latter located upon the port side of the ship, this arrangement allowing 21 ore spouts to be lowered into the vessel at one time, thereby reducing the time required for loading.

The cabins are finished in quarter-sawn oak and are both handsome and commodious. Capt. John McArthur will command the Rockefeller, with Irwin Marshall as chief engineer.

The improvements in design of the Rockefeller over her predecessors in the line are chiefly the work of her designer, Mr. A. C. Dierickx, who was greatly assisted by Supt. Joseph Kidd.

The Rockefeller will be operated as the property of the American Steel Barge Co., and should not be confused with the boats of what is known as the Rockefeller fleet (Bessemer Steamship Co.,) one of which is under construction.

The schooner Connelly Bros., building at Alex Anderson's shipyard, Marine City, for Connelly Bros., Buffalo, was launched Thursday afternoon, and will soon be completed. She measures 201 feet on the keel, 36 feet beam, and 19 feet 5 inches depth. She will tow behind the steamer Wotan.

GENERAL REPAIR WORK.

CLEVELAND.—Boats are rapidly finishing up and getting away. The Waverly, at the Cleveland dry-dock has received a good deal of new planking in her bows to repair last fall's ice damages. The schooner Southwest, which loaded coal at Fairport and began leaking badly on her way up, is in the dock to have her bottom calked. The little steamer Riverside is in the Ship Owners' dry-dock and the Globe Iron Works are enlarging her rudder surface. The G. W. Roby had her rudder repaired and got a new wheel. The A. P. Wright is in the dry-dock.

DETROIT.—At the foot of Orleans street there are several boats lying for repairs and 200 men are thus given work. In the engine works there have been made during the winter eighteen boilers, as follows: Six for the City of Buffalo, two for the Wolverine boat, one for

the Jones boat, three each for the Rockefeller boats, one for the Progress, one for the Ranney. In the shops 150 men have been employed all winter. At Wyandotte there have been used 7,000 tons of steel in construction. The big dock at the foot of Orleans street has been occupied by damaged boats ever since last December.

The steamer Iron Age arrived here Wednesday with a cracked boiler, said to have resulted from a cold water test made at Buffalo a week ago. The Iron Age will probably remove or uncouple her wheel and tow behind one of the other "Iron" steamers until the damage is repaired. The R. P. Ranney is getting a new boiler, and the tug Wales a new rudder.

CHICAGO.—At Miller Bros.' shipyard the steamer E. E. Thompson is in dock for a practical rebuild. The schooner Clara is having her bottom calked, and will receive a new mizzenmast. The scow Kellogg is in for repairs and calking.

SUPERIOR.—The Clyde Iron Works are doing repairs on nearly every ship in the harbor, including the Northern Steamship Company's passenger boats, the whalebacks Trevor and Mather, the City of Duluth and a good many of the tug boats. The Singer tug Abbot has been in the boxes receiving a new wheel. The tugs Mariel and Fish, also of the Singer fleet, have been out of the water to receive caulking and general repairs.

STURGEON BAY.—The reconstruction of the Jos. L. Hurd is rapidly nearing completion. The new quarter deck has been put in complete, likewise new decking between the old deck and false sides. The stringers and railing have been put on and nearly all fastened. This rail is 5x17 inches, while the outside stringers are 4x11 inches, and the inside ones 3x11 inches. The iron used for fastenings is ¾-inch, which is used exclusively. In edge-bolting the rail to the stringers iron ¾ inch by 27 inches long was driven between every stanchion. A solid oak timber-head 16-16 inches has been put in aft for towing purposes. The upper works around the texas have been put on and the carpenters are now at work on those around the after cabin. The fender strake is also being put on—she will not have a wale strake.

The second-hand boiler recently put in the tug Aimes, formerly J. C. Perrett, is not proving a success, and as soon as the W. & M. Co.'s new tug Fischer goes into commission a new boiler will be put in the Aimes.

SAVUT STE. MARIE.—Among the boats launched recently at Pullar's shipyard, where they had been for repairs, were the Lake Superior Power Co.'s tug Jessie; Hingstone & Wood's tug Alice Campbell, P. M. Church's tug Pioneer, Robert H. Lucke's tug Gazelle, and Capt. W. P. Stirling's steamer Northern Belle, and two scows. From 40 to 40 men have been employed at Pullar's shipyard during the past two months.

MASTERS' AND ENGINEERS' DIRECTORY.

THE RECORD will issue next week a list of masters and engineers of lake steamers, and of masters of lake schooners and barges, which should have a place in the office of every broker and owner, as well as of all dealers in ship supplies. The names will be arranged in alphabetical order, so that no time can be lost in looking up names. While not reaching absolute perfection, the list will be the most complete and up-to-date directory of this character ever published. We would be glad if any names not covered in our columns to-day or heretofore, would be sent in by Monday next, with the names of master or engineer filled in its proper place. It will be a handy book throughout the season, and masters and engineers should take the trouble of enabling their friends to locate them when desired.

The books will be issued in handy pocket form, and will sell for 75 cents each. Advertisers and subscribers will be charged 50 cents per copy.

Mr. H. F. J. Porter, western sales agent for the Bethlehem Iron Co., with headquarters at Chicago, was in Cleveland Monday, to confer with Mr. Walter Miller, who is now the local representative of this company. The Bethlehem Iron Co., is getting right into the lake marine trade, and will increase its share of this as the popularity grows of soft steel forgings as substitutes for iron. The success the company has had in government work for this and foreign countries is a sufficient guaranty, if any were needed, and both owners and builders are beginning to appreciate this.

There is now 17 feet 4 inches of water in Conneaut Harbor, with part of the channel deepened to 18 feet.

VESSEL TRANSFERS.

The sale of the Chicago tug Calumet, reported three weeks ago under the above heading, was for \$5,100, and not for \$1,500, as a printers' error made it read. The price was correctly given in the Chicago letter of the same week.

William Barrett Jr., of Red River, Wis., has traded the schooner O. Shaw to Alfred Morton, of Green Bay, for the schooner Dolly M.

The Fritz Karste has been sold to Mr. Strichenbach, of Green Bay, and the tug M. A. Knapp to Capt. Sanders of West Green Bay. Both tugs will engage in fishing operations on Green Bay.

Capt. Lem. Brown, of Sandusky, has purchased the steamer Energy from Capt. John McCormick, of Pelee Island, and will sail this season between Point Pelee Island and Kingsville, and will be on hand to lighter or assist a vessel aground on the middle ground.

James M. Caldwell, of Toledo, has bought the schooner Young America from the Grummond estate. The price is not given.

The steamer M. C. Neff has been sold by the Hines Lumber Co. to Cleveland people for \$15,000. She will engage the coming season in carrying cedar between Lake Huron and Georgian Bay and Lake Erie.

The steamer City of New York has been sold by the Chicago Lumber Co. for \$8,000. She will remain on Lake Michigan.

Capt. Jos. Ganley, of Collinwood, Ont., has purchased the tug Susan C. Doty. The new property will be used in connection with the fishing business in which Mr. Ganley is interested.

Among recent transfers at Detroit is the propeller Rhoda Emily, sold by L. A. Hunt, Saginaw, to C. R. Jones, of Cleveland. C. M. Jones owner of one-half interest in the schooner John Magee, sold one-half of his interest to F. H. Hubbard, both of Detroit.

C. B. Chamberlin has sold the schooner Kewaunee to Win & Schlusser, of Milwaukee, for \$3,000.

The steamer Arctic was sold by Deputy Marshal McCaffrey, at Alexandria Bay, to W. A. Webster, of South Hammond, for \$2,000.

Capt. Samuel W. Gould, master of the schooner John Martin, has purchased a $\frac{1}{4}$ interest in the schooner, paying at the rate of \$18,000 for the vessel.

James F. Knightley, of Mackinaw, has bought the gospel steamyacht Glad Tidings from Capt. Bundy, and will run her between St. Ignace and Les Cheneaux this year. Her name will be changed to Elva.

Capt. D. C. Clary, of Sandusky, has sold the sloop-yacht Minx to John Beebe, of the same city. Consideration private.

The following sales of vessel property have been placed on record at the Milwaukee custom office: Scow J. B. Prime, C. H. Ellis to Henry H. Schroeder, of Milwaukee, one-half, \$200. Steamer Hilton, C. H. Ellis to Henry H. Schroeder, of Milwaukee, one-half, \$3,150. Schooner Hattie Hutt, Gunder Benson, of Manitowoc, to Ole Hanson, of Milwaukee, one-tenth, nominal consideration.

Capt. L. B. Coates, of Sault Ste. Marie, has sold his interest in the steamer City of Green Bay to the A. Booth Packing Co.

Capt. Gregory Hurson has bought the F. & P. M. No. 1 for his Chicago-Milwaukee route. She will be thoroughly overhauled, and will be rechristened.

The little schooner Mary has been sold by Capt. Arthur E. Dow, of Manitowoc, to Joseph Challee and Capt. Louis Legot, of Kewaunee, for \$225.

Gunda Hanson, of Washington Island, has sold one-fifth of the schooner Oneida to George Hanson, of Milwaukee, for \$700.

Commodore W. H. Singer of Duluth, has traded the tug Howard to the Michigan Tug Towing Co., for the Waldo A. Avery.

Chas. Chamberlain, of Detroit, has bought the schooner O. J. Hale from D. V. Runnels, of Port Huron, for \$1,000.

John Joys has sold one-half of the schooner Emma Banner to Christopher Peterson, of Milwaukee, for \$200.

Capt. Ferd Jorns, of Egg Harbor, Wis., has sold the schooner Elizabeth to Capt. Charles Enman, of Menominee.

The following are recorded at the Milwaukee customs office: Schooner Dollie M., Alfred Morton et al, of Escanaba, to Wm. Barrett, of Red River, Wis., nominal consideration; schooner Actor, Charles E. Roeber,

Manitowoc, to Arthur E. Dow, Manitowoc, \$100; schooner Emily Taylor, Halvor Johnson, Two Creeks, Wis., to Anton Larschel, Bay Settlement, Brown county, Wis., \$560.

The Valley City, which has been at Toledo for some time, has been purchased by Oscar M. Springer, of that city, and will be taken via Green Bay, the canal and the Mississippi River to the Gulf of Mexico. She will go into the ferry business between Galveston and Texas City.

The excursion steamer Columbia was sold under the hammer at Buffalo for \$16,500.

Harry C. French has bought the three-fourths interest of W. J. Conners in the five steamers, Fisk, Moran, Neoly, Stevens and Warda. For particulars see Buffalo letter.

Joel Kaercher, of Sandusky, has sold a one-fourth interest in the steamer H. C. Schnoor to Capt. Wm. Duff, who will command her. The other three-quarters he sold to Carl G. Nielsen and Henry Lay.

C. N. and George Johnson, of Milwaukee, have transferred to John Mogenson and Louis and Nils Olson, of Sheboygan, for \$2,000, a two-thirds interest in the schooner Vega; also one-sixth to Mogenson for \$500.

Charlotte E. Cooper, of Milwaukee, and E. J. Stoakes, of Sheboygan, have secured from the Wisconsin Dredge & Dock Co. the tug George Cooper for \$6,500, and the tug Pacific for \$2,000.

YACHTS AND YACHTSMEN.

At a special meeting of the Lake Michigan Yachting Association, held at Racine, recently, the following was adopted as a permanent rule of classification:

"Resolved, That class A boats be composed of 45-foot boats and over; class B, 40 to 45; class C, 35 to 40; class D, 30 to 35; class E, 26 to 30; class F, 22 to 26; class G, 22 feet and under."

* * *

An important meeting of the Inter-Lake Yachting Association was held at Erie, Pa., on the 11th inst. The rules regarding measurement of sail areas were discussed, but were left unchanged. A motion to classify by water-line length was also lost.

Delegates from Lake Ontario Association stated that they would abandon their circuit this season and would attend the regatta at Put-in-Bay on August 3, 4, 5 and 6, afterwards visiting Cleveland, Erie and perhaps Toledo. A committee on compromise rules, to reconcile the different views, was appointed, to report at the fall meeting, as follows: E. W. Radder, of Cleveland; F. B. Hower, of Buffalo; George T. Bliss, of Erie, for the Lake Erie Yachting Association; and E. H. Ambrose and Commodore Jarvis, of the Lake Ontario Association. The delegates were banqueted by the Erie Yacht Club in the evening.

* * *

The Cleveland Yacht Club is sparing neither expense nor labor to attract yachts to the Centennial regatta, which, it is hoped, will surpass everything of the kind ever before held on the Great Lakes. Over \$5,000 has been set aside for prizes and entertainment, with a number of minor arrangements to relieve visiting yachtsmen from delay and annoyance. Several vessel owners have agreed to have their steamers tow yacht free to and from the regatta.

* * *

John Barth and G. W. Luetkemyer, of Cleveland, have bought the yacht Shamrock, of Detroit. Carl Schweikert, of that city, is shortening her jibboom so that her topmast need not be shortened to qualify her to enter the third-class under the over-all system of measurement. She will be in commission in about two weeks, but will remain at Detroit until after Memorial Day, when her new owners will enter her in the Detroit races to come off that day.

* * *

It is announced from Detroit that the yacht Alice Enright is likely to be out of commission this summer. There are no indications of any intention to repair the damage done to her in her collision with the yacht City of the Straits last fall, when both broke from their moorings. The Sharon has changed hands, being now owned by James Gadd, Wesley Johnson, Oscar Peterson, and Homer Ducrot.

Early in May the steel passenger steamer Manitou, of the L. M. & L. S. line will take a special excursion party from Chicago to Duluth.

THE LIBRARY TABLE.

The Yale Scientific Monthly for April contains another valuable contribution from Mr. Henry S. Pickands "Arboriculture in Cities."

The May number of Harper's will contain an article on Mark Twain, by his intimate friend, Rev. Joseph H. Twitchell, of Hartford. Most appropriately, the paper will abound in anecdote; and its interest will be enhanced by a portrait, engraved by Florian from the most latest photograph of Mr. Clemens, and other illustrations.

THE RECORD has just received, from Mr. Chas. H. Jordan, M. L. N. A., Lyon Court, Cornhill, London E. C., a copy of the fifth edition of his tabulated weights of Angle, tel, and bulb iron and steel, with other information for the use of naval architects, ship builders, and manufacturers. The book comprises 600 32mo pages bound in French morocco. The price is \$2 per copy, and the RECORD will be pleased to place the order for any one wishing a copy.

The front-spice of Scribner's for May is a fine reproduction of William F. Kline's beautiful picture of "Spring." The leading article is on the home of Robert Louis Stevenson, by Isobel Strong. Other contents are the first of a series of papers by Hamilton Busbey upon "The Evolution of the Trotting Horse;" "Women Bachelors in London," by Mary Gay Humphreys; "A Mystery of the Sea," by W. J. Henderson, illustrated by M. J. Burns; and "The Nightmare Page," by Olive Thane.

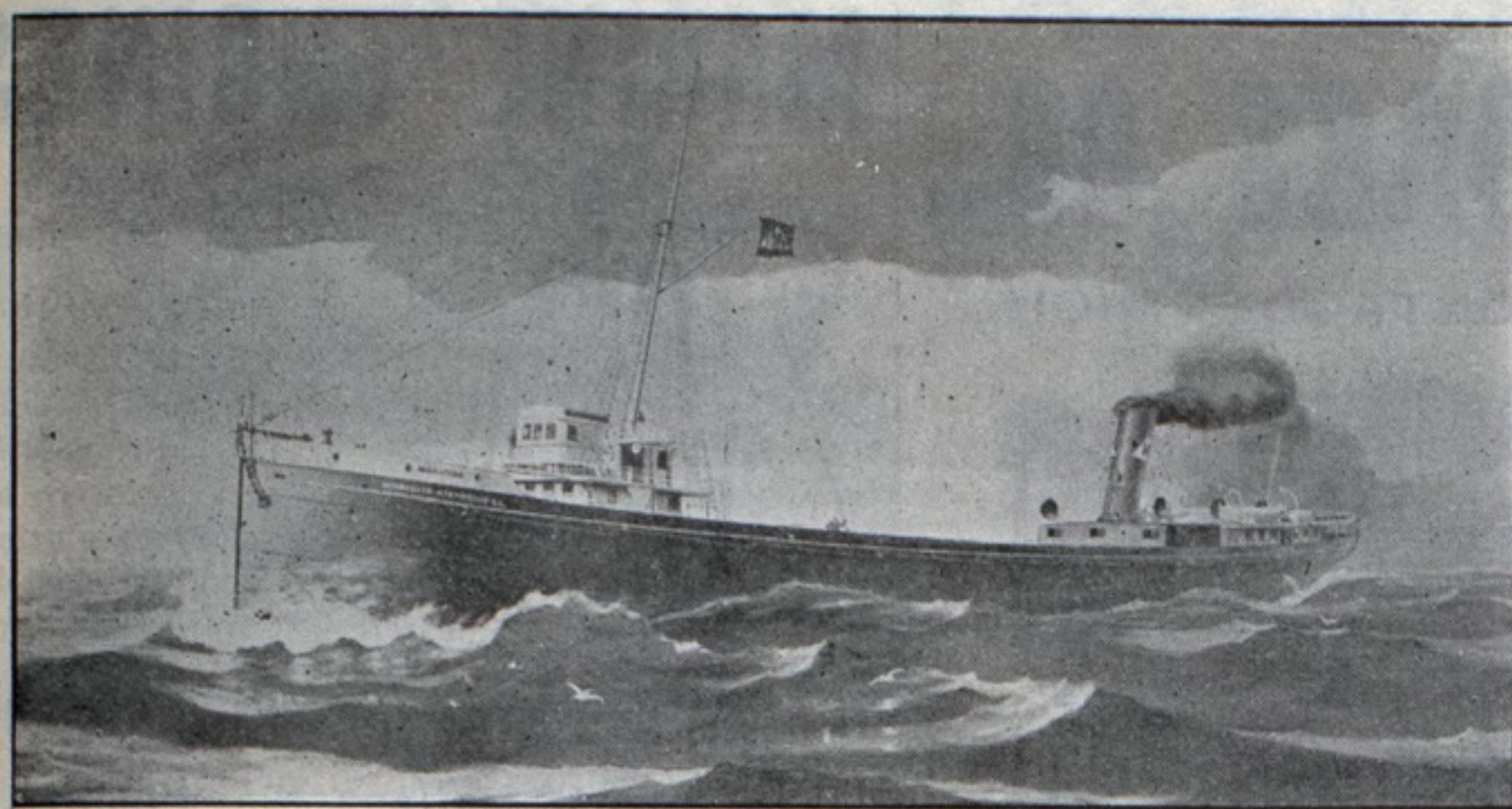
The April number of the Central Magazine (Cleveland) comes out in enlarged form. The leading article is an excellent historical sketch by D. D. Bigger, D. D., of Gen. Wm. H. Gibson—we say historical advisedly, as the story of the growth of Ohio is interwoven with the life of this great campaigner of the battlefield and stump. Other contents are poems by Raymond Evans and Susie Marchant; "Cuba, the Gem of the Antilles," by Rose G. Abott; "Whaling in Olden Days," F. H. Goodsell; "The Sunny South—College Park," Hugh H. Colquitt; "Georgia Colleges," Mrs. Loulie M. Gordon; "Rhome, a Tale of Early Days," (serial) by George R. Woolf.

The North American Review for April contains a leading article by David A. Wells on "Great Britain and the United States—Their True Relations." Another international problem—"Possible Complications of the Cuban question"—is indorsed by Mayo W. Hazeltine. Seaton Monroe gives further "Recollections of Lincoln's Assassination;" Karl Blind treats of the "Problems of the Transvaal." Other features are the "Gold Mining Activity in Colorado," by T. A. Rickard, State geologist, and "The North Polar Problem" by Admiral A. H. Markham, R. N.; "Pigmy Races of Men," by Prof. Frederick Starr, and the continuation of "The Future Life and the Condition of Man Therein," by Rt. Hon. Wm. E. Gladstone.

VISIBLE SUPPLY OF GRAIN.

As compiled for THE MARINE RECORD by George F. Stone, Secretary Chicago Board of Trade, April 25, 1896:

CITIES WHERE STORED.	WHEAT. Bushels.	CORN. Bushels.	OATS. Bushels.	RYE. Bushels.	BARLEY Bushels.
Albany		15,000	20,000		
Baltimore	89,000	469,000	148,000	58,000	
Boston	114,000	30,000	67,000		
Buffalo	759,000	755,000	130,000	126,000	89,000
" afloat					
Chicago	16,189,000	5,993,000	2,097,000	447,000	57,000
" afloat	60,000	186,000	97,000		
Cincinnati	12,000	2,000	20,000	1,000	36,000
Detroit	216,000	17,000	13,000	13,000	2,000
" afloat					
Duluth and Superior	14,686,000	147,000	1,200,000	233,000	550,000
" afloat					
Indianapolis	89,000	8,000			
Kansas City	1,146,000	184,000	52,000	29,000	
Milwaukee	843,000	2,000	17,000	302,000	33,000
" afloat	53,000				
Minneapolis	18,753,000	51,000	722,000	109,000	126,000
Montreal	927,000	75,000	433,000	6,000	65,000
New York	271,000	91,000	1,468,000	8,000	9,000
" afloat					
Oswego					15,000
Peoria	20,000	49,000	262,000	2,000	
Philadelphia	107,000	53,000	93,000		
St. Louis	1,051,000	590,000	374,000	3,000	
" afloat		34,000			
Toledo	720,000	41,000	69,000	123,000	
" afloat					
Toronto	30,000	22,000	101,000		45,000
On Canal		8,000	12,000		
On Lakes	1,711,000	5,677,000	2,165,000	50,000	202,000
On Mississippi	100,000	216,000	35,000		
Grand Total	57,946,000	15,155,000	9,595,000	1,510,000	1,229,000
Corresponding date 1895	65,776,000	11,107,000	6,217,000	151,000	449,000

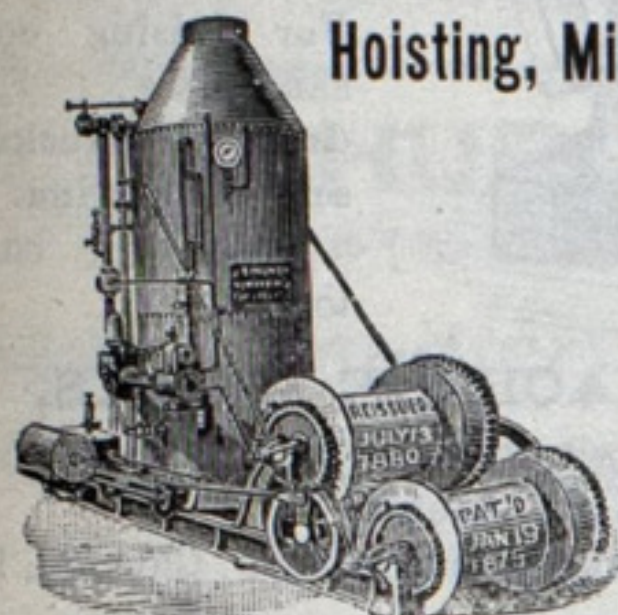


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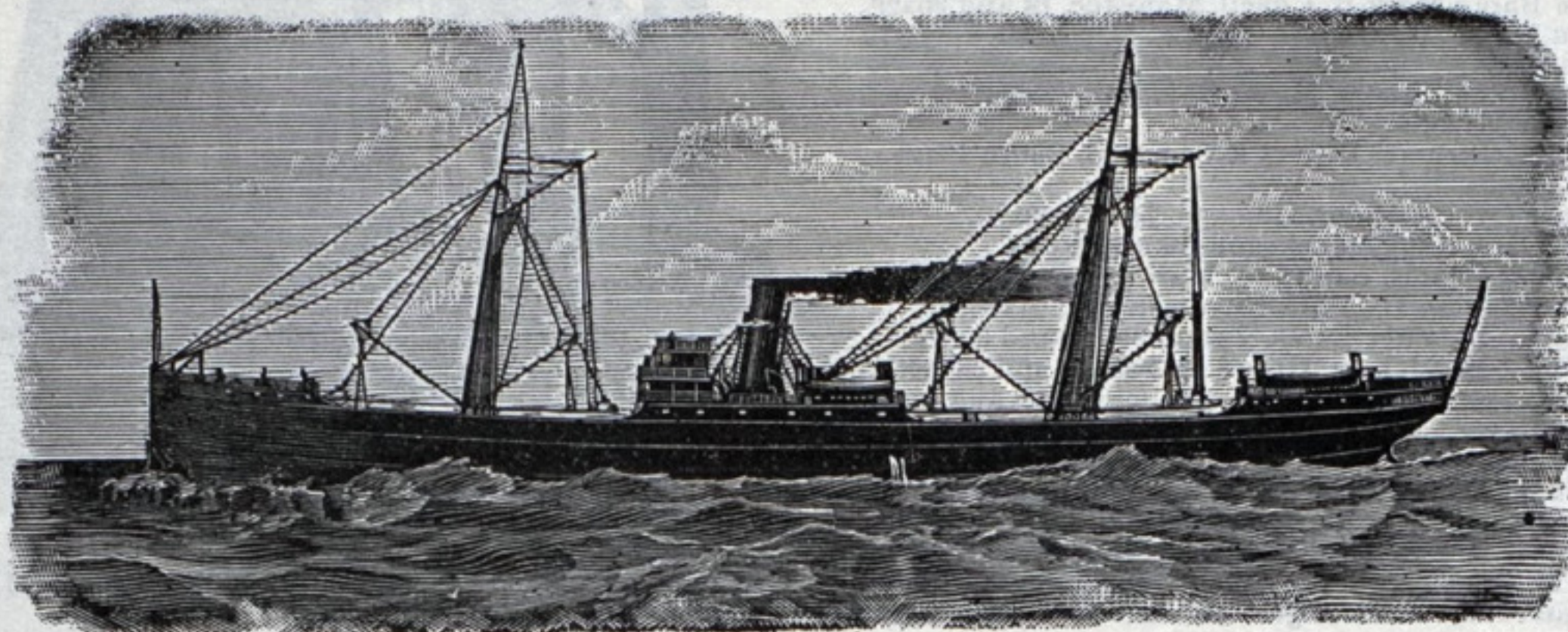
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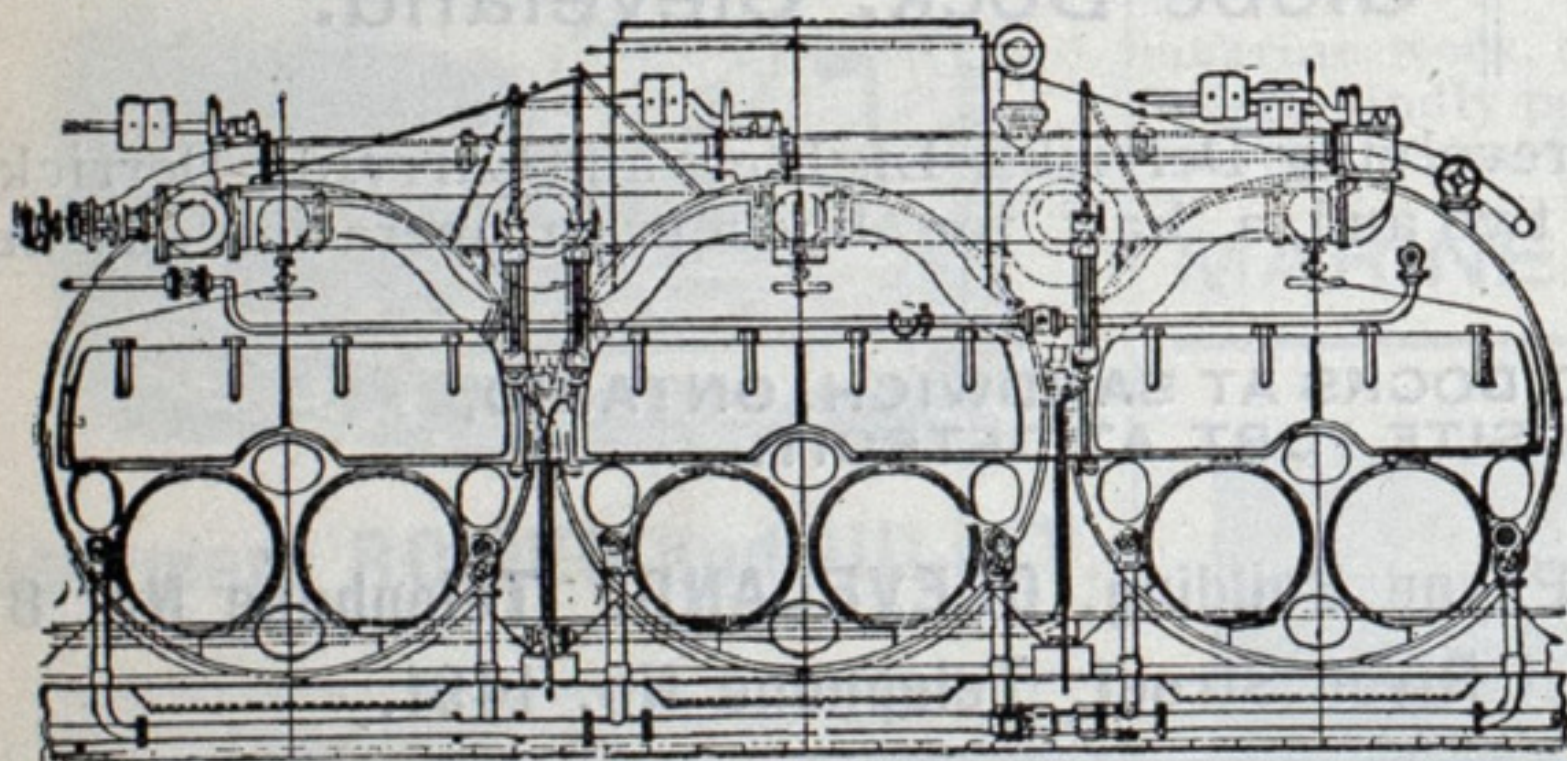
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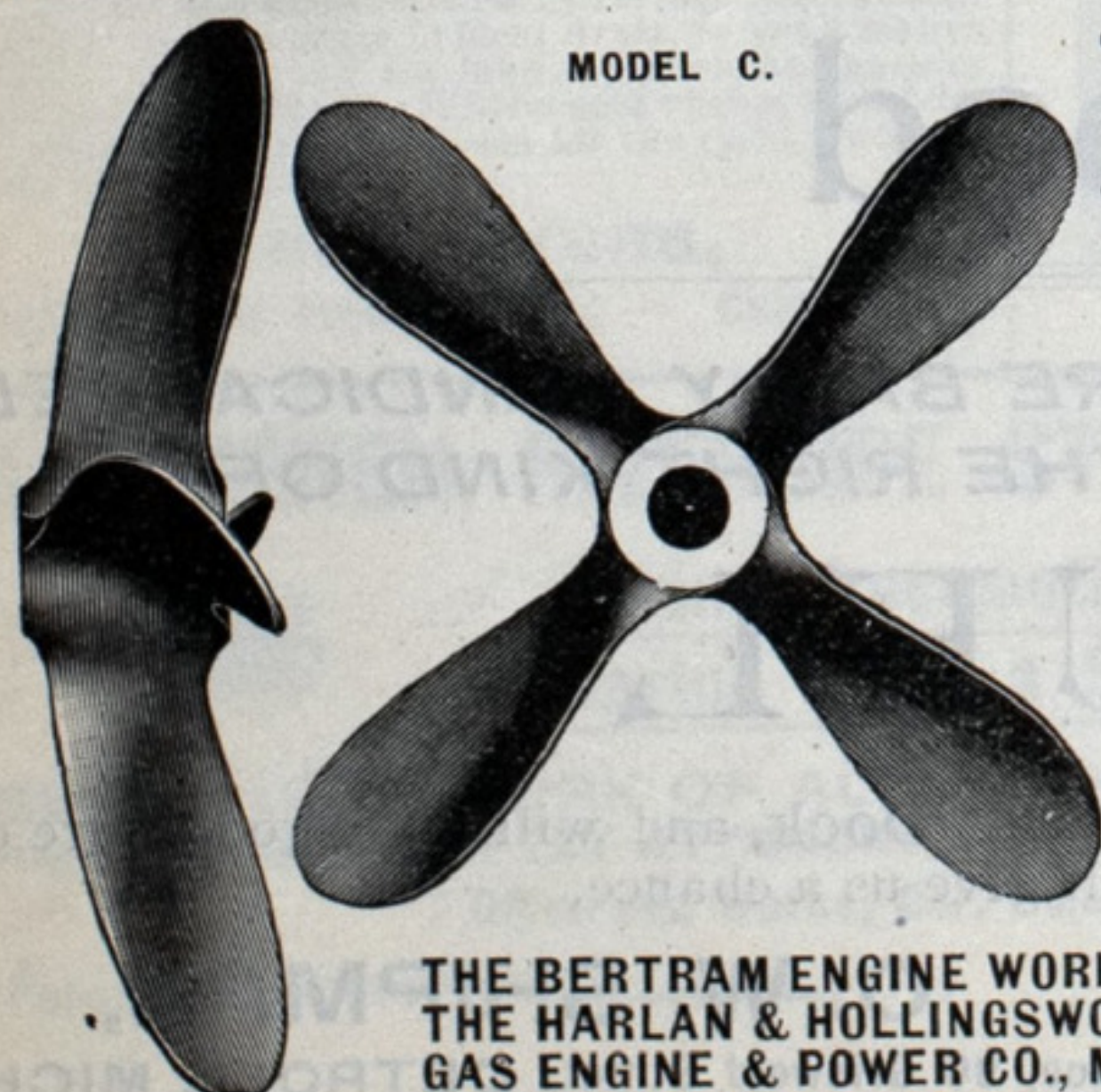
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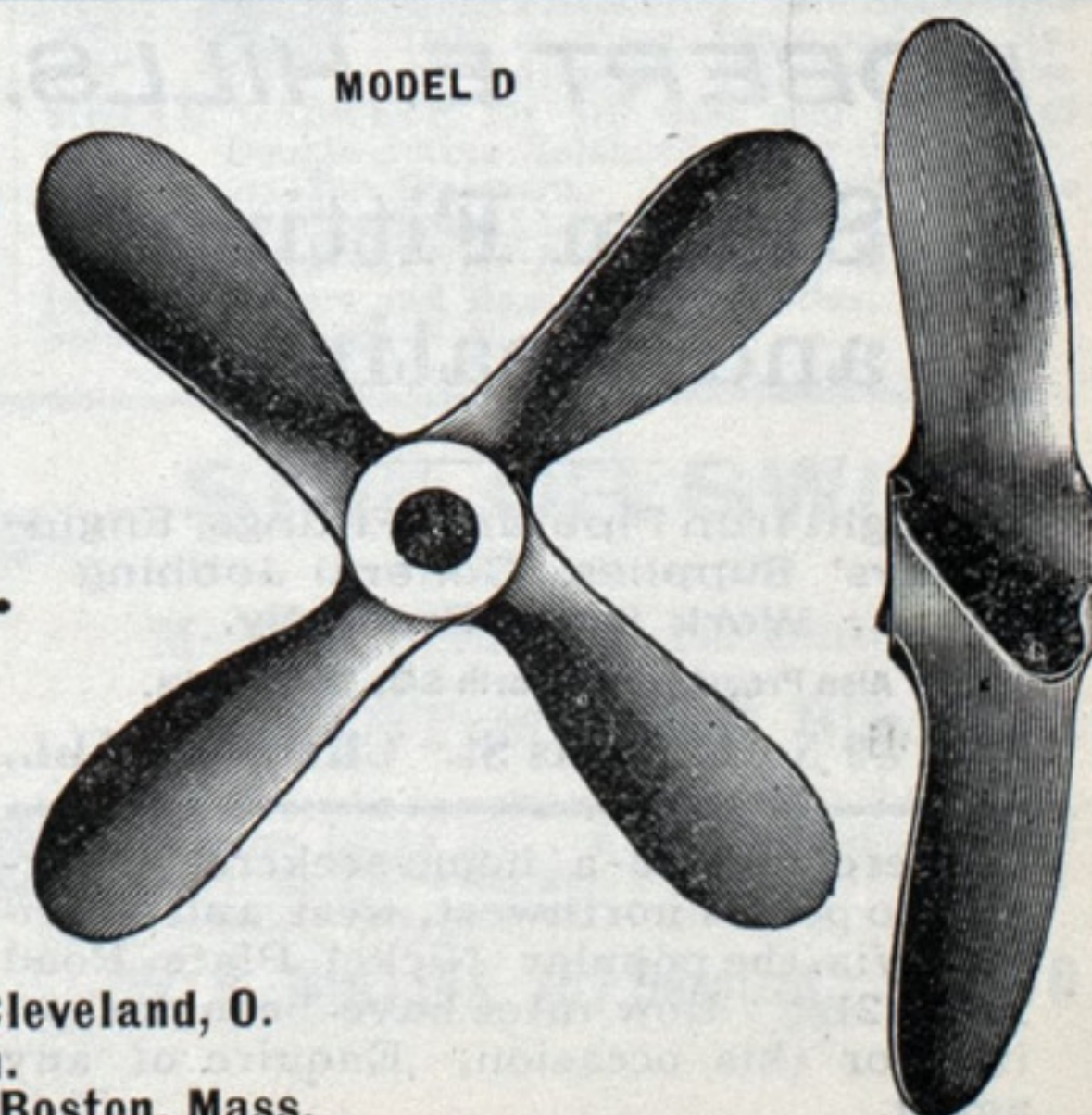
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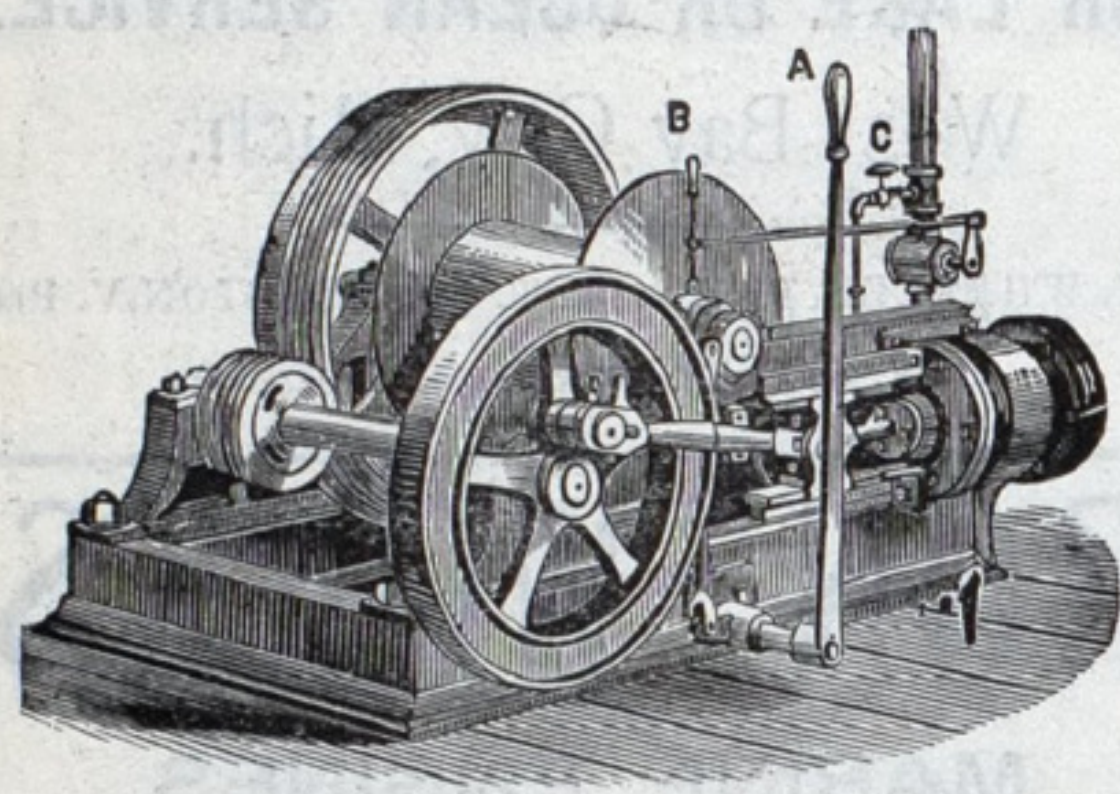
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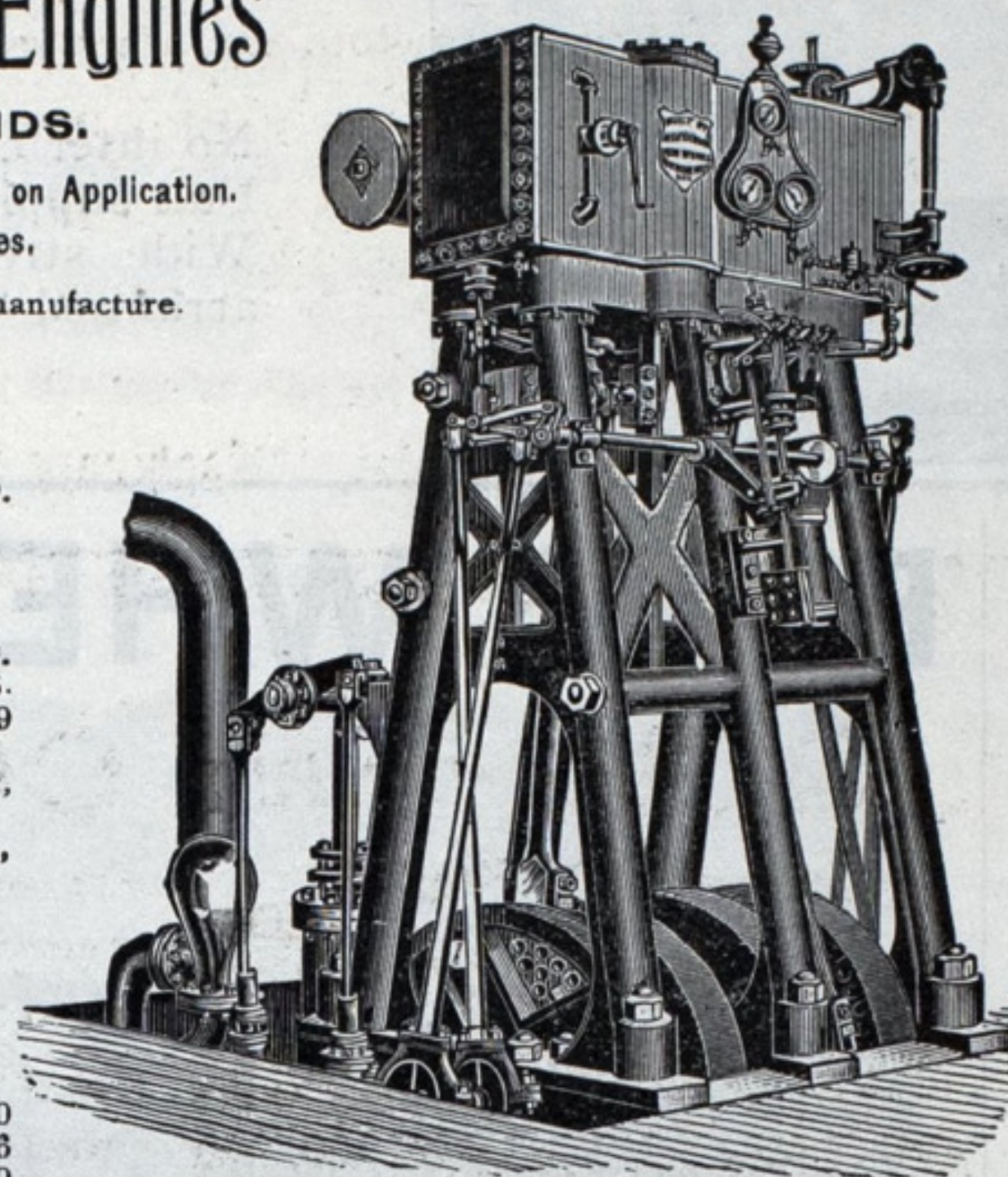
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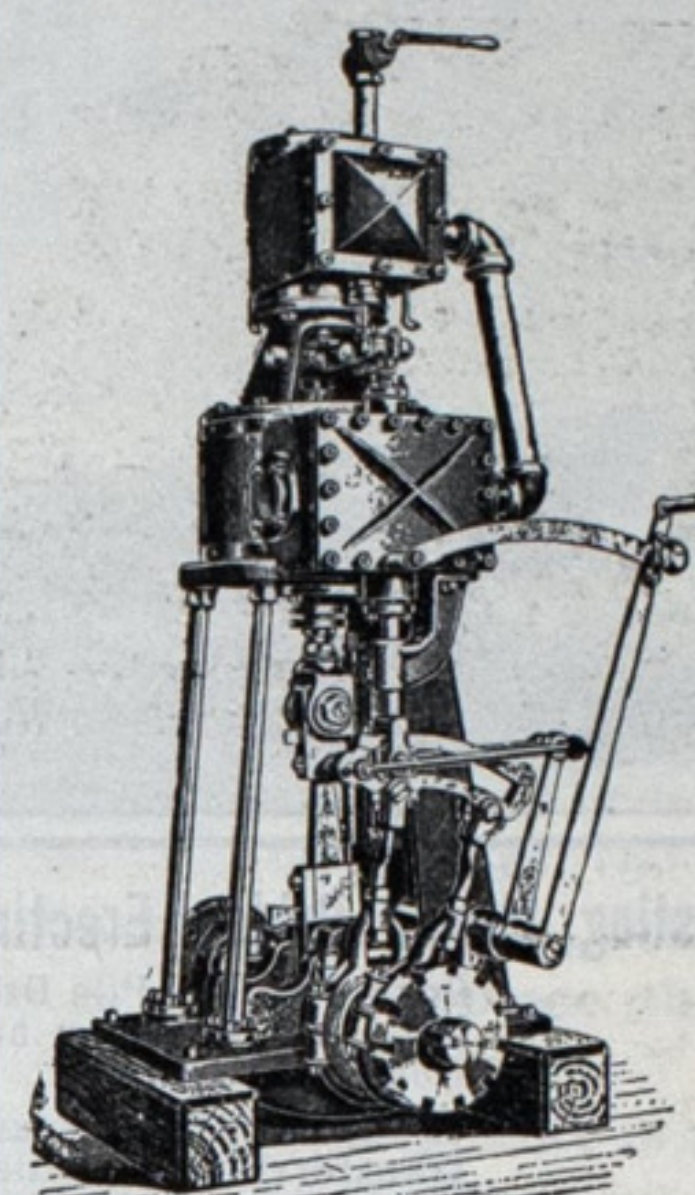
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53-18

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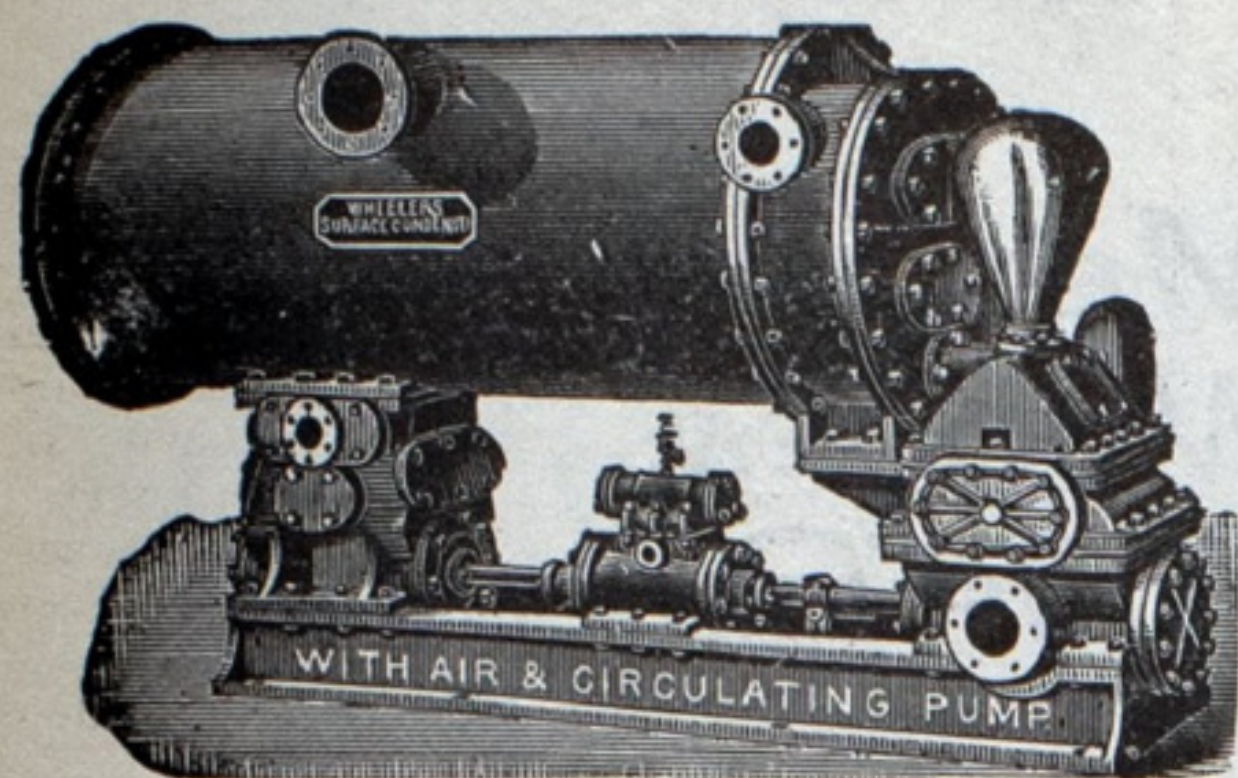
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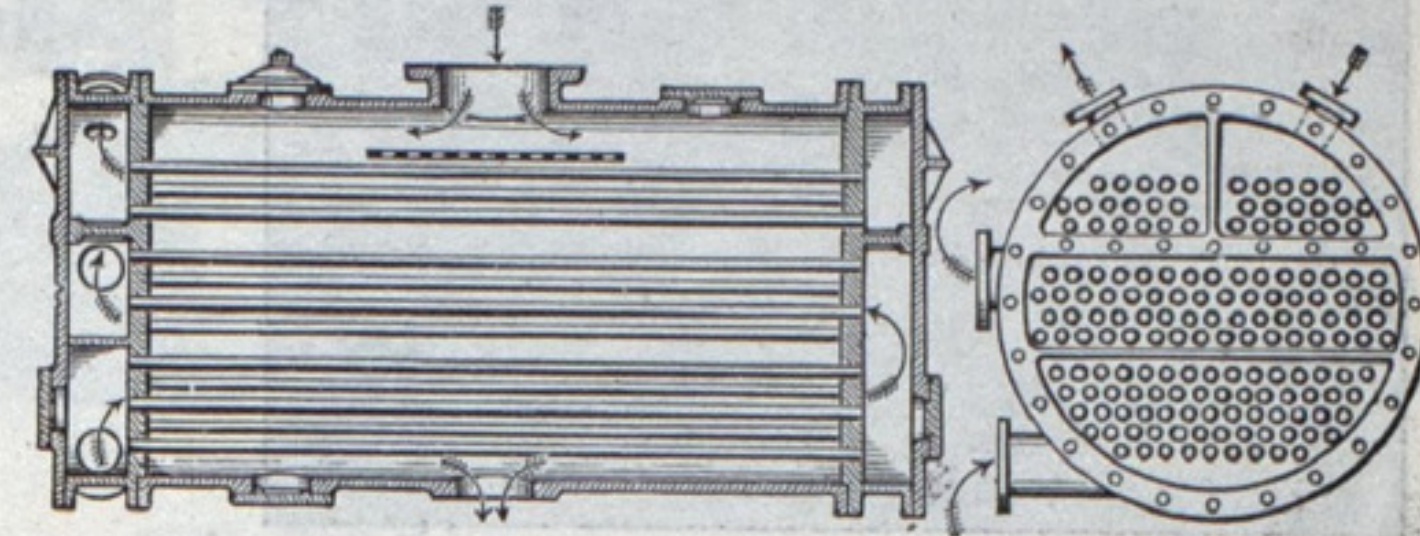
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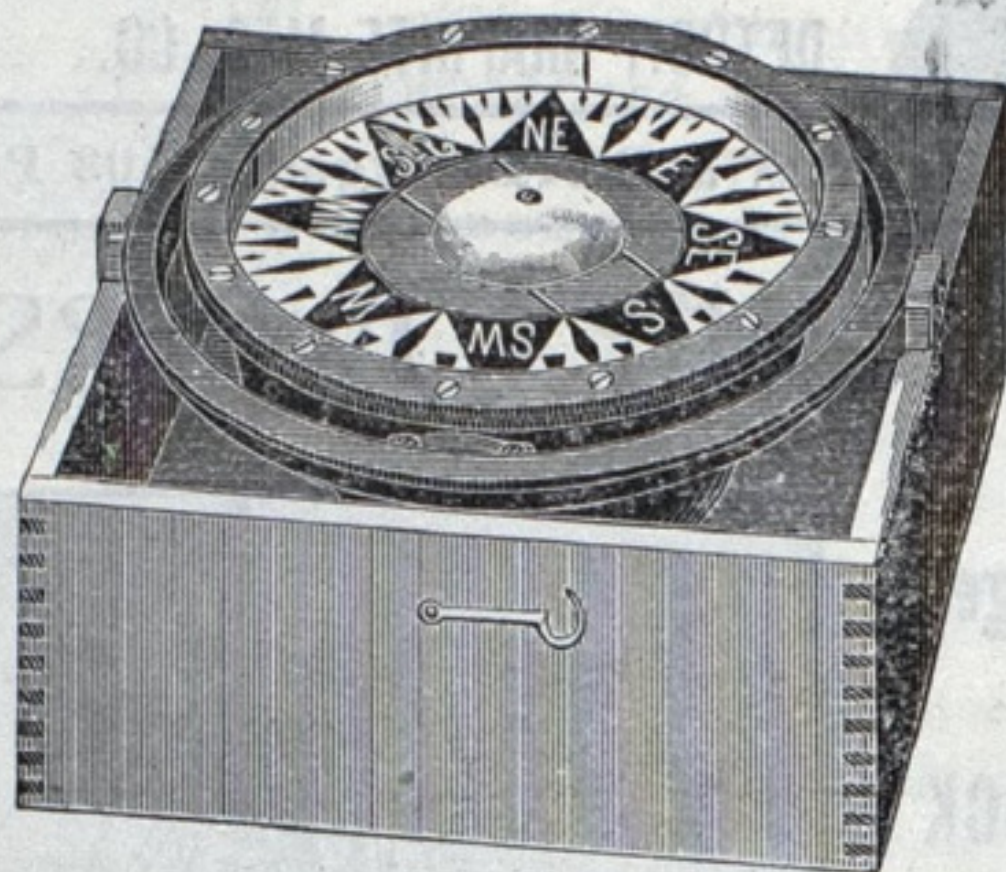
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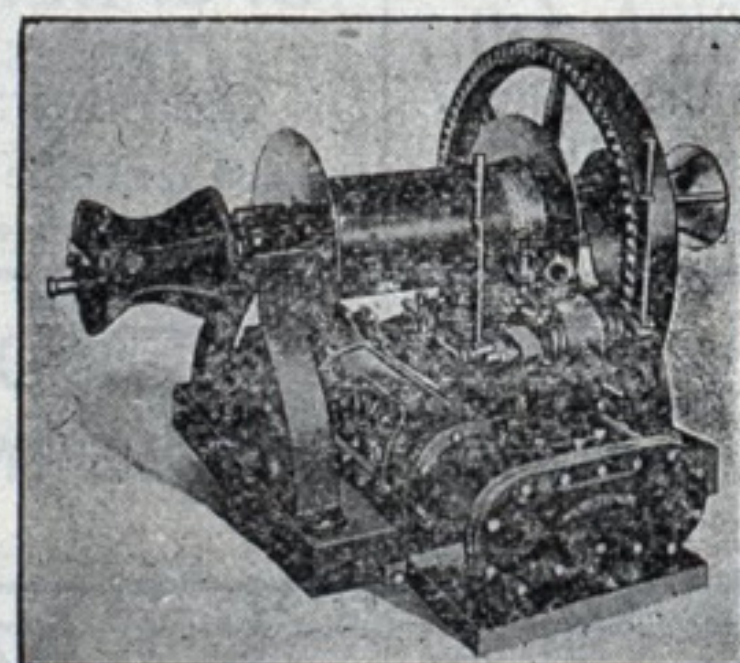
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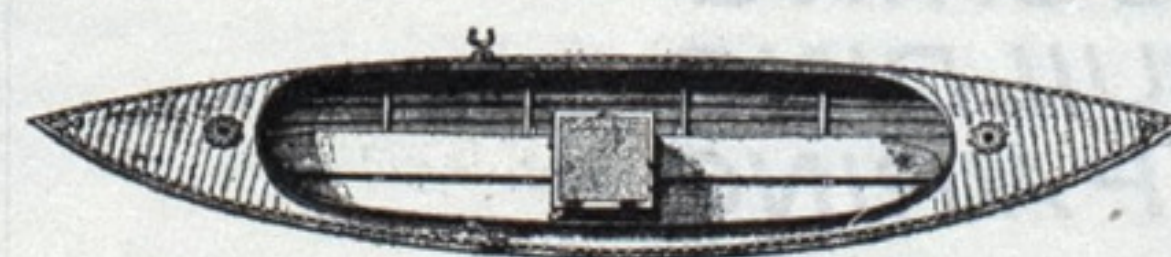
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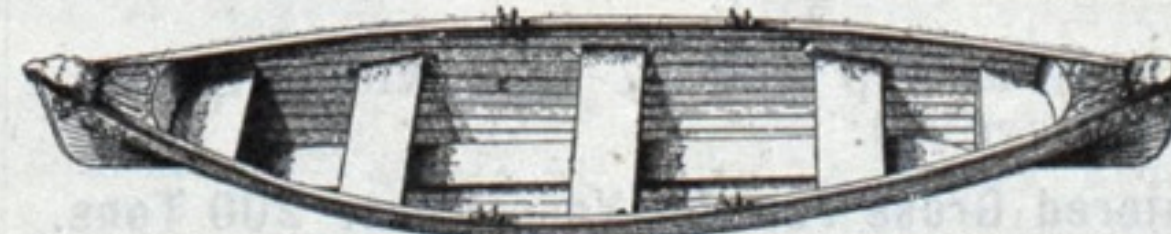
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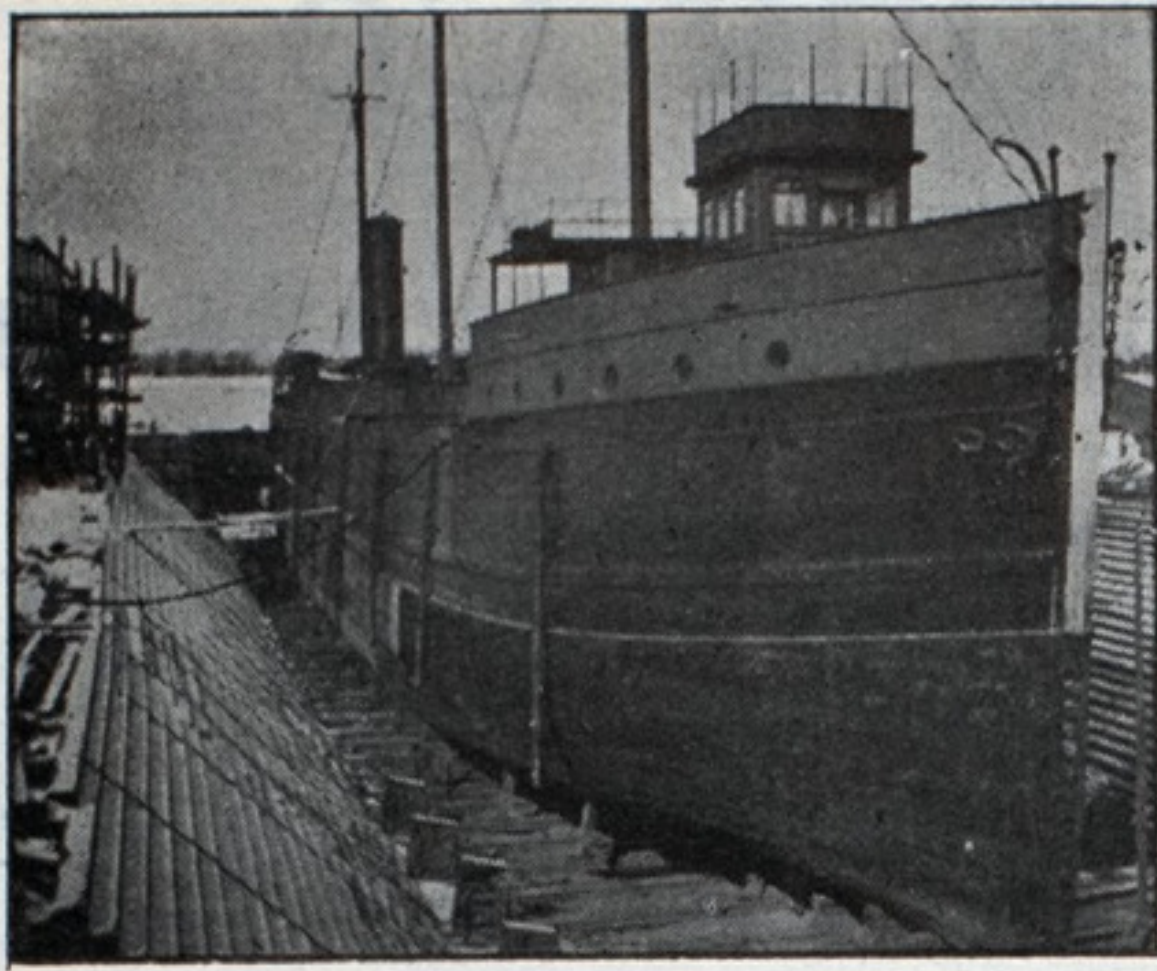
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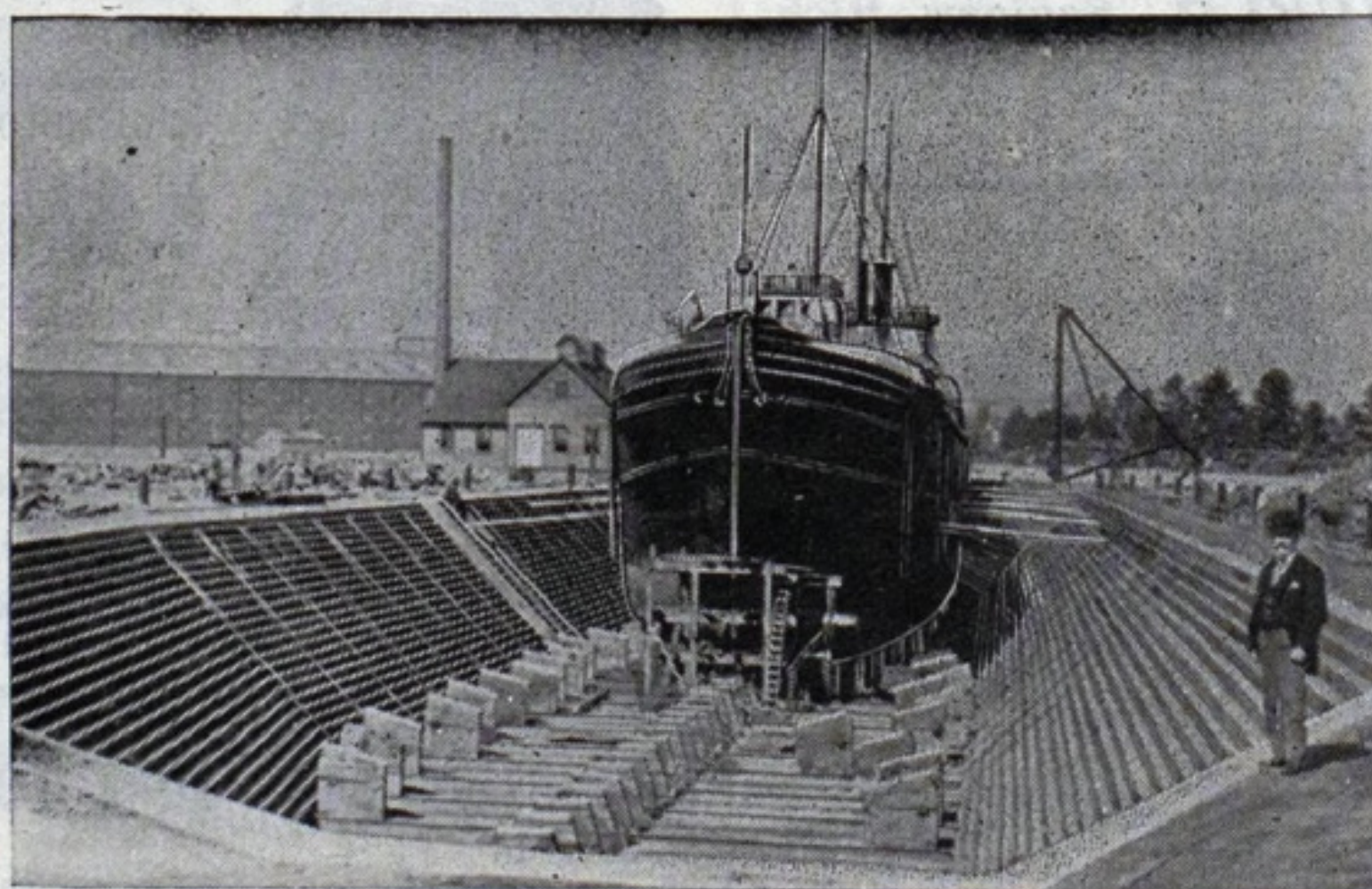
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Breadth, Top.....90 " 4 in.	Entrance, Bottom.....50 "
Breadth, Bottom.....52 "	Depth over Sills.....18 "

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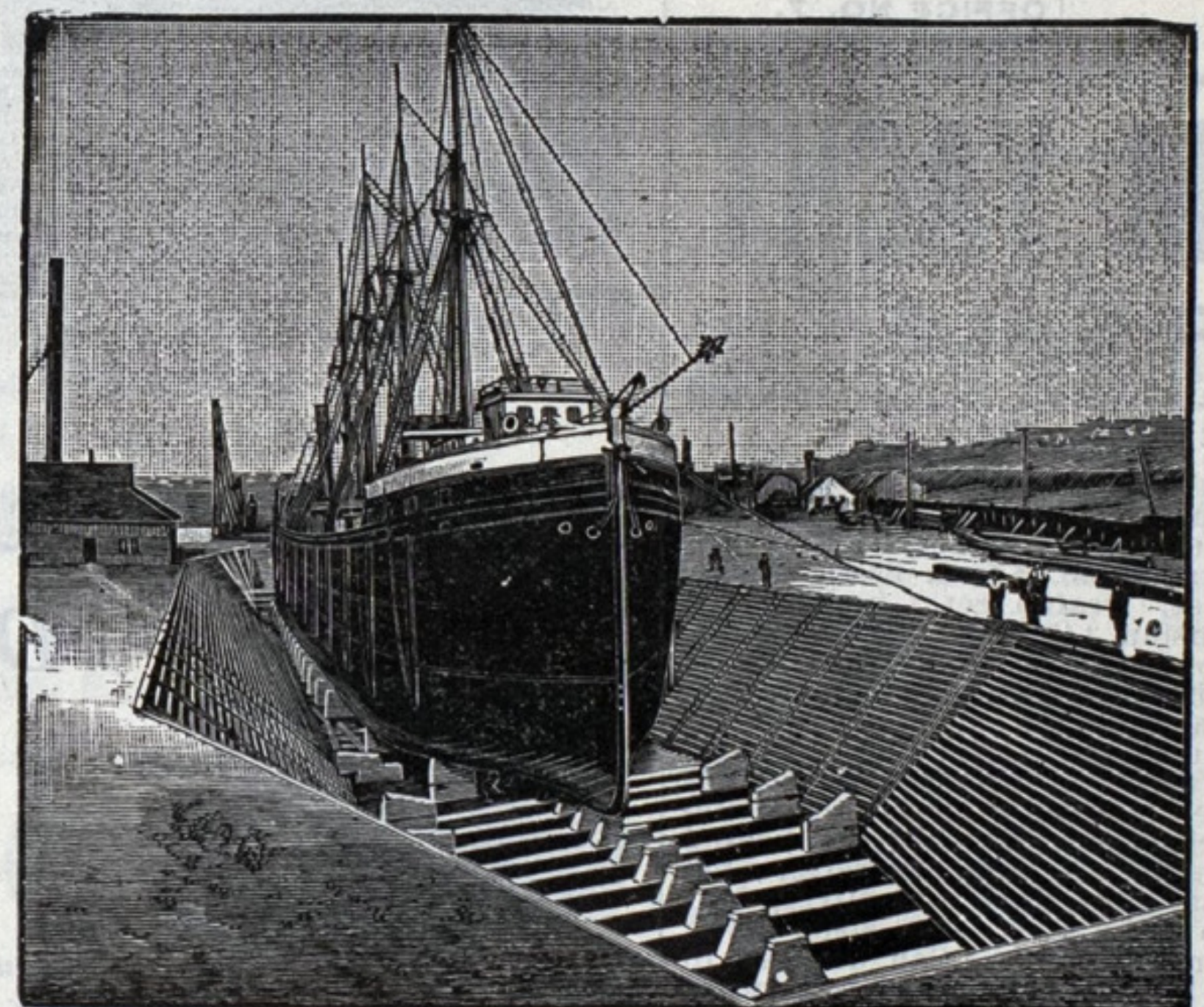
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